AP

(51) **International Patent Classification**: C12N

(21) **International Application Number**: PCT/US01/16450

(22) **International Filing Date**: 18 May 2001 (18.05.2001)

(25) **Filing Language**: English

(26) **Publication Language**: English

(30) **Priority Data**:
60/205,515   19 May 2000 (19.05.2000)   US

(71) **Applicant** (for all designated States except US): HUMAN GENOME SCIENCES, INC. [US/US]; 9410 Key West Avenue, Rockville, MD 20850 (US).

(72) **Inventors**; and

(75) **Inventors/Applicants** (for US only): BIRSE, Charles, E. [GB/US]; 13822 Saddleview Drive, North Potomac, MD 20878 (US). ROSEN, Craig, A. [US/US]; 22400 Rolling Hill Road, Laytonsville, MD 20882 (US).

(74) **Agents**: WALES, Michele, M. et al.; Human Genome Sciences, Inc., 9410 Key West Avenue, Rockville, MD 20850 (US).

(81) **Designated States** (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) **Designated States** (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
without international search report and to be republished upon receipt of that report
with sequence listing part of description published separately in electronic form and available upon request from the International Bureau

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) **Title**: NUCLEIC ACIDS, PROTEINS, AND ANTIBODIES

(57) **Abstract**: The present invention relates to novel proteins. More specifically, isolated nucleic acid molecules are provided encoding novel polypeptides. Novel polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human polynucleotides and/or polypeptides, and antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to these novel polypeptides. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting or enhancing the production and function of the polypeptides of the present invention.

WO 01/90304 A2

Nucleic Acids, Proteins, and Antibodies

This application refers to a "Sequence Listing" that is provided on electronic media in computer readable form pursuant to Administrative Instructions Section 801(a)(i) and as a paper copy. The Sequence Listing forms a part of this description pursuant to Rule 5.2 and Administrative Instructions Sections 801 to 806, and is hereby incorporated in its entirety.

The Sequence Listing is provided as an electronic file (PA131PCTSL..txt, 5,210,863 bytes in size, created on May 18, 2001) on three identical compact discs (CD-R), labeled "COPY 1," "COPY 2," and "CRF." The Sequence Listing complies with Annex C of the Administrative Instructions, and may be viewed, for example, on an IBM-PC machine running the MS-Windows operating system by using the V viewer software, version 2000 (see World Wide Web URL: http://www.fileviewer.com).

Field of the Invention

[0001] The present invention relates to novel proteins. More specifically, isolated nucleic acid molecules are provided encoding novel polypeptides. Novel polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human polynucleotides and/or polypeptides, and antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to these novel polypeptides. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting or enhancing the production and function of the polypeptides of the present invention.

Background of the Invention

[0002] Protein transport is a quintessential process for both prokaryotic and eukaryotic cells. Transport of an individual protein usually occurs via an amino-terminal signal sequence, which directs, or targets, the protein from its ribosomal assembly site to a particular cellular or extracellular location. Transport may involve any combination of several of the following steps: contact with a chaperone, unfolding, interaction with a receptor and/or a pore complex, addition of energy, and refolding. Moreover, an

1

extracellular protein may be produced as an inactive precursor. Once the precursor has been exported, removal of the signal sequence by a signal peptidase activates the protein.

[0003]   Although amino-terminal signal sequences vary substantially, many patterns and overall properties are shared. Recently, hidden Markov models (HMMs), statistical alternatives to FASTA and Smith Waterman algorithms, have been used to find shared patterns, specifically consensus sequences (Pearson, W.R. and D.J. Lipman PNAS 85:2444-48 (1988); Smith, T.F. and M.S. Waterman J. Mol. Biol. 147:195-97 (1981)). Although they were initially developed to examine speech recognition patterns, HMMs have been used in biology to analyze protein and DNA sequences and to model protein structure (Krogh, A. et al. J. Mol. Biol. 235:1501-31 (1994); Collin, M. et al. Protein Sci. 2:305-14 (1993)). HMMs have a formal probabilistic basis and use position-specific scores for amino acids or nucleotides and for opening and extending an insertion or deletion. The algorithms are quite flexible in that they incorporate information from newly identified sequences to build even more successful patterns. Other methods exist to identify membrane associated proteins. Klein et al. have developed a method ("ALOM", also called as KKD) to detect potential transmembrane segments in polypeptides (Klein, P. et al. Biochim. Biophys. Acta, 815:468 (1985)). It attempts to identify the most probable transmembrane segment from the average hydrophobicity value over a range of amino acid residues. It predicts whether the segment is a transmembrane segment (INTEGRAL) or not (PERIPHERAL) and thus, can suggest membrane association of a polypeptide.

[0004]   Some examples of the protein families which are known to be plasma membrane associated are receptors (nuclear, 4 transmembrane, G protein coupled, and tyrosine kinase), cytokines (chemokines), hormones (growth and differentiation factors), neuropeptides and vasomediators, protein kinases, phosphatases, phospholipases, phosphodiesterases, nucleotide cyclases, matrix molecules (adhesion, cadherin, extracellular matrix molecules, integrin, and selectin), seven transmembrane receptors, ion channels (calcium, chloride, potassium, and sodium), proteases, transporter/pumps (amino acid, protein, sugar, metal and vitamin; calcium, phosphate, potassium, and sodium) and regulatory proteins. Descriptions of some of these proteins (seven transmembrane receptors, kinases, matrix proteins, fibronectins, defensins, EF-hand domain containing

proteins, mac/perforin family members, pancreatic hormones, serine carboxypeptidases, tumor necrosis factors (TNFs)) and diseases associated with their dysfunction follow.

Seven transmembrane receptors-

[0005]   The seven transmembrane receptors (also known as heptahelical, serpentine, or G protein-coupled receptors) comprise a superfamily of structurally related molecules. Possible relationships among seven transmembrane receptors (7TM receptors) for which amino acid sequence had previously been reported are reviewed in Probst et al., *DNA and Cell Biology*, 11(1):1-20 (1992). Briefly, the 7TM receptors exhibit detectable amino acid sequence similarity and all appear to share a number of structural characteristics including: an extracellular amino terminus; seven predominantly hydrophobic α-helical domains (of about 20-30 amino acids) which are believed to span the cell membrane and are referred to as transmembrane domains TM 1-7; approximately twenty well-conserved amino acids; and a cytoplasmic carboxy terminus.

[0006]   Each 7TM receptor is predicted to associate with a particular G protein at the intracellular surface of the plasma membrane. The binding of the receptor to its ligand is thought to result in activation (i.e., the exchange of GTP for GDP on the α-subunit) of the G protein which in turn stimulates specific intracellular signal-transducing enzymes and channels. Thus, the function of each 7TM receptor is to discriminate its specific ligand from the complex extracellular milieu and then to activate G proteins to produce a specific intracellular signal. Transmembrane domain-3 (TM3) is believed to be essential in signal transduction (Cotecchia et al., *Proc. Natl. Acad. Sci.*, USA, 87:2896-2900 (1990)). Other regions may be essential for biological activity as well (Lefkowitz, *Nature*, 265:603-604 (1993)).

[0007]   Mutations in the third intracellular loop of one 7TM receptor (the thyrotropin receptor) and in the adjacent sixth transmembrane domain of another 7TM receptor (the luteinizing hormone receptor) have been reported to be the genetic defects responsible for an uncommon form of hyperthyroidism (Parma et al., *Nature*, 365:649-651 (1993) and for familial precocious puberty (Shenker et al., *Nature*, 365:652-654 (1993)), respectively. In both cases the mutations result in constitutive activation of the G protein receptors. Other studies have shown that mutations that prevent the activation of 7TM receptors are responsible for states of hormone resistance which are responsible for diseases such as

congenital nephrogenic diabetes insipidus. See Rosenthal et al., *J. Biol. Chem.*, 268:13030-13033 (1993). Still other studies have shown that several 7TM receptors can function as protooncogenes and be activated by mutational alteration. See, for example, Allen et al., *Proc. Natl. Acad. Sci. USA*, 88:11354-11358 (1991) which suggests that spontaneously occurring mutations in some 7TM receptors may alter the normal function of the receptors and result in uncontrolled cell growth associated with human disease states such as neoplasia and atherosclerosis. Therefore, mutations in 7TM receptors may underlie a number of human pathologies.

Kinases-

[0008]   The kinases comprise the largest known group of proteins, a superfamily of enzymes with widely varied functions and specificities. Kinases regulate many different cell proliferation, differentiation, and signaling processes by adding phosphate groups to proteins. Receptor mediated extracellular events trigger the transfer of these high energy phosphate groups and activate intracellular signaling cascades. Activation is roughly analogous to the turning on a molecular switch, and in cases where signalling is uncontrolled, may be associated with or produce inflammation and cancer.

[0009]   Almost all kinases contain a similar 250-300 amino acid catalytic domain. The N-terminal domain, which contains subdomains I-IV, generally folds into a two-lobed structure which binds and orients the ATP (or GTP) donor molecule. The larger C terminal lobe, which contains subdomains VIA-XI, binds the protein substrate and carries out the transfer of the gamma phosphate from ATP to the hydroxyl group of a serine, threonine, or tyrosine residue. Subdomain V spans the two lobes.

[0010]   The kinases may be categorized into families by the different amino acid sequences (between 5 and 100 residues) located on either side of, or inserted into loops of, the kinase domain. These amino acid sequences allow the regulation of each kinase as it recognizes and interacts with its target protein. The primary structure of the kinase domain is conserved and contains specific residues and identifiable motifs or patterns of amino acids. The serine threonine kinases represent one family which preferentially phosphorylates serine or threonine residues. Many serine threonine kinases, including those from human, rabbit, rat, mouse, and chicken cells and tissues, have been described

4

(Hardie, G. and Hanks, S. (1995) The Protein Kinase Facts Books, Vol 1:7-20 Academic Press, San Diego, CA).

Matrix Proteins-

[0011]   The matrix proteins (MPs) provide structural support, cell and tissue identity, and autocrine, paracrine and juxtacrine properties for most eukaryotic cells (McGowan, S.E. (1992) FASEB J. 6:2895-2904). MPs include adhesion molecules, integrins and selectins, cadherins, lectins, lipocalins, and extracellular matrix proteins (ECMs). MPs possess many different domains which interact with soluble, extracellular molecules. These domains include collagen-like domains, EGF-like domains, immunoglobulin-like domains, fibronectin-like domains, type A domain of von Willebrand factor (vWFA)-like modules, ankyrin repeat modules, RDG or RDG-like sequences, carbohydrate-binding domains, and calcium-binding domains.

[0012]   The diversity, distribution and biochemistry of MPs is indicative of their many, overlapping roles in cell proliferation and cell signaling. MPs function in the formation, growth, remodeling, and maintenance of bone, and in the mediation and regulation of inflammation. Biochemical changes that result from congenital, epigenetic, or infectious diseases affect the expression and balance of MPs. This balance, in turn, affects the activation, proliferation, differentiation, and migration of leukocytes and determines whether the immune response is appropriate or self-destructive (Roman, J. (1996) Immunol. Res. 15:163-178).

Fibronectins-

[0013]   Fibronectin proteins play a vital role in the structure and function of the extracellular matrix (ECM). Defects in the function of the ECM are thought to be involved in diseases such as osteoporosis, atherosclerosis, arthritis, and fibrotic diseases. Fibronectin enables cells to adhere to the ECM, and influences the growth and migration of cells as well as the organization of the cytoskeleton. As a major component of the ECM, Fibronectin is thought to influence such processes as cellular adhesion and migration, particularly during development, as well as processes such as wound repair (R.O. Hynes, *PNAS*, 96:2588-90 (1999)).

[0014]   Fibronectin is a disulfide-linked dimeric glycoprotein composed of type I, type II, and type III fibronectin repeats. Type I repeats are approximately 45 amino acids in length and are located at the amino- and carboxy-termini of the protein. Type II domains are approximately 40-60 amino acids in length, and contain four conserved cysteines involved in disulfide bonding. It is thought that the type II domains may function in collagen binding. There are approximately 15-17 type III domains, arranged in tandem in the middle of the protein, that are thought to provide elasticity to fibronectin.

Defensins-

[0015]   Mammalian defensins are produced by the epidermis and mucosal epithelium as innate effector molecules thought to function in an antimicrobial capacity. Defensins are cytotoxic peptides with a broad range of activity on gram-positive and negative bacteria, fungi, parasites, viruses, and mycobacteria. The two characterized defensins are the alpha and beta defensins. The alpha-defensins are produced by neutrophils and macrophage, while the beta-defensins are produced by epithelia (Singh, P.K., et al., *PNAS*, 95:14961-66 (1998); Lillard, J.W., et al., *PNAS*, 96:651-56 (1999)).

[0016]   Defensin peptides range in length from approximately 29 to 35 amino acids, and include six conserved cysteine residues involved in disulfide bond formation and protein folding. The distribution and connection of the cysteine residues differs between the alpha and beta defensins.

EF-hand domain containing proteins-

[0017]   Calcium is well known to be essential for cell signaling. However, calcium also plays a role in such cellular processes as protein processing and membrane traffic to and through the Golgi. Many proteins thought to be involved in the binding of calcium accomplish this in part through a protein calcium-binding domain known as the EF-hand domain.

[0018]   The domain consists of a twelve residue loop flanked by a twelve residue alpha-helical domain on both sides. In the EF hand loop, the calcium ion is situated in a coordinated pentagonal bipyramidal configuration. An invariant Glutamic acid or Aspartic acid residue provides two oxygens for liganding the calcium ion.

[0019] Proteins containing this domain include aequorin and Renilla luciferin binding protein (LBP), Recoverins, Calmodulin, Calpain small and large chains, Calretinin, Calcyclin, Fimbrin, Serine/Threonine protein phosphatase, and Diacylglycerol kinase, for example.

MAC/Perforin Family Members-

[0020] The Membrane Attack Complex (MAC) is one of the sequentially activated, membrane bound complexes of the complement system used to eliminate diseased or non-compliant cells. Under this system, activated C5b sequentially binds C6 and C7, which insert into cell membranes. This complex then binds one molecule of C8, followed by between 1 and 18 molecules of C9, which polymerizes to generate a transmembrane channel. These transmembrane channels pierce the membrane, increasing the cell's permeability. These channels permit small molecules in the cell to exchange with the medium. Therefore, water is osmotically drawn into the cell, eventually resulting in the cell bursting.

[0021] Similarly, Perforin is a molecule produced by cytotoxic T cells. In the presence of calcium, Perforin polymerizes into transmembrane channels capable of lysing a variety of target cells in a nonspecific manner.

Pancreatic Hormones- Serine Carboxypeptidases-

[0022] Pancreatic hormone (PP) is a peptide of approximately 80 amino acids in length that is generated in pancreatic islets of Langherhans and consequently secreted. Pancreatic hormone is thought to function as a regulator of pancreatic and gastrointestinal functions.

[0023] Representative members of the pancreatic hormones family of proteins include Neuropeptide Y, Peptide YY, and skin peptide YY. These proteins may be useful as therapeutics for controlling secretion of the gonadotropin-releasing hormone, disorders related to feeding, vasoconstrictory actions, and colonic mobility, as well as antibacterial and antifungal activity.

Serine Carboxypeptidases-

[0024]   Carboxypeptidases catalyze the hydrolysis of C-terminal residues of polypeptides. Carboxypeptidases are identified either as metallo-carboxypeptidases or serine-carboxypeptidases.

[0025]   Serine carboxypeptidases have the ability to hydrolyze peptides as well as peptide amides from the C-terminus, and have a preferential release of a C-terminal arginine or lysine residue. Their subcellular location is usually extracellular or intracellular. The catalytic activity of serine carboxypeptidases is provided by a charge relay system involving an aspartic acid residue hydrogen-bonded to a histidine, which is itself hydrogen bonded to a serine.

Tumor necrosis factors (TNF)-

[0026]   Tumor necrosis factors (TNF) alpha and beta are cytokines, which act through TNF receptors to regulate numerous biological processes, including protection against infection and induction of shock and inflammatory disease. The TNF molecules belong to the "TNF-ligand" superfamily, and act together with their receptors or counter-ligands, the "TNF-receptor" superfamily. So far, nine members of the TNF ligand superfamily have been identified and ten members of the TNF-receptor superfamily have been characterized.

[0027]   Many members of the TNF-ligand superfamily are expressed by activated T-cells, implying that they are necessary for T-cell interactions with other cell types which underlie cell ontogeny and functions (Meager, A., *supra*).

[0028]   Considerable insight into the essential functions of several members of the TNF receptor family has been gained from the identification and creation of mutants that abolish the expression of these proteins. For example, naturally occurring mutations in the FAS antigen and its ligand cause lymphoproliferative disease (Watanabe-Fukunaga, R. *et al., Nature 356*:314 (1992)), perhaps reflecting a failure of programmed cell death. Mutations of the CD40 ligand cause an X-linked immunodeficiency state characterized by high levels of immunoglobulin M and low levels of immunoglobulin G in plasma, indicating faulty T-cell-dependent B-cell activation (Allen, R.C. *et al., Science 259*:990 (1993)). Targeted mutations of the low affinity nerve growth factor receptor cause a disorder characterized by faulty sensory innovation of peripheral structures (Lee, K.F. *et al., Cell 69*:737 (1992)).

[0029]   TNF and LT-α are capable of binding to two TNF receptors (the 55- and 75-kd TNF receptors). A large number of biological effects elicited by TNF and LT-α, acting through their receptors, include hemorrhagic necrosis of transplanted tumors, cytotoxicity, a role in endotoxic shock, inflammation, immunoregulation, proliferation and anti-viral responses, as well as protection against the deleterious effects of ionizing radiation. TNF and LT-α are involved in the pathogenesis of a wide range of diseases, including endotoxic shock, cerebral malaria, tumors, autoimmune disease, AIDS and graft-host rejection (Beutler, B. and Von Huffel, C., *Science 264*:667-668 (1994)). Mutations in the p55 Receptor cause increased susceptibility to microbial infection.

[0030]   Moreover, an about 80 amino acid domain near the C-terminus of TNFR1 (p55) and Fas was reported as the "death domain," which is responsible for transducing signals for programmed cell death (Tartaglia *et al., Cell 74*:845 (1993)).

[0031]   Plasma membrane associated proteins with a predominant tissue expression pattern are important targets for targeted drug delivery, tumor-targeted therapy (e.g., including, but not limited to, radioimmunotherapy) antibody mediated attack of diseased tissues or cancers, and immune mediated cytotoxicity.

[0032]   The discovery of new plasma membrane associated proteins and the polynucleotides encoding these molecules thus satisfies a need in the art by not only providing new compositions useful in the diagnosis, treatment, and prevention of diseases associated with cell proliferation and cell signaling, particularly cancer, immune response and neuronal disorders; but also by providing new targets for immune based therapies.

Summary of the Invention

[0033]   The present invention relates to novel proteins. More specifically, isolated nucleic acid molecules are provided encoding novel polypeptides. Novel polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human polynucleotides and/or polypeptides, and antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to these novel polypeptides. The invention further relates to screening methods for

identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting or enhancing the production and function of the polypeptides of the present invention.

Detailed Description

Tables

[0034]   Table 1 summarizes some of the polynucleotides encompassed by the invention (including cDNA clones related to the sequences (Clone ID NO:Z), contig sequences (contig identifier (Contig ID:) and contig nucleotide sequence identifier (SEQ ID NO:X)) and further summarizes certain characteristics of these polynucleotides and the polypeptides encoded thereby. The first column provides the gene number in the application for each clone identifier. The second column provides a unique clone identifier, "Clone ID NO:Z", for a cDNA clone related to each contig sequence disclosed in Table 1. The third column provides a unique contig identifier, "Contig ID:" for each of the contig sequences disclosed in Table 1. The fourth column provides the sequence identifier, "SEQ ID NO:X", for each of the contig sequences disclosed in Table 1. The fifth column, "ORF (From-To)", provides the location (i.e., nucleotide position numbers) within the polynucleotide sequence of SEQ ID NO:X that delineate the preferred open reading frame (ORF) that encodes the amino acid sequence shown in the sequence listing and referenced in Table 1 as SEQ ID NO:Y (column 6). Column 7 lists residues comprising predicted epitopes contained in the polypeptides encoded by each of the preferred ORFs (SEQ ID NO:Y). Identification of potential immunogenic regions was performed according to the method of Jameson and Wolf (CABIOS, 4; 181-186 (1988)); specifically, the Genetics Computer Group (GCG) implementation of this algorithm, embodied in the program PEPTIDESTRUCTURE (Wisconsin Package v10.0, Genetics Computer Group (GCG), Madison, Wisc.). This method returns a measure of the probability that a given residue is found on the surface of the protein. Regions where the antigenic index score is greater than 0.9 over at least 6 amino acids are indicated in Table 1 as "Predicted Epitopes". In particular embodiments, polypeptides of the invention comprise, or alternatively consist of, one, two, three, four, five or more of the predicted epitopes described in Table 1. It will be appreciated that depending on the analytical criteria used to predict antigenic determinants, the exact address of the determinant may

10

vary slightly. Column 8, "Tissue Distribution" shows the expression profile of tissue, cells, and/or cell line libraries which express the polynucleotides of the invention. The first number in column 8 (preceding the colon), represents the tissue/cell source identifier code corresponding to the key provided in Table 4. Expression of these polynucleotides was not observed in the other tissues and/or cell libraries tested. For those identifier codes in which the first two letters are not "AR", the second number in column 8 (following the colon), represents the number of times a sequence corresponding to the reference polynucleotide sequence (e.g., SEQ ID NO:X) was identified in the tissue/cell source. Those tissue/cell source identifier codes in which the first two letters are "AR" designate information generated using DNA array technology. Utilizing this technology, cDNAs were amplified by PCR and then transferred, in duplicate, onto the array. Gene expression was assayed through hybridization of first strand cDNA probes to the DNA array. cDNA probes were generated from total RNA extracted from a variety of different tissues and cell lines. Probe synthesis was performed in the presence of ^{33}P dCTP, using oligo(dT) to prime reverse transcription. After hybridization, high stringency washing conditions were employed to remove non-specific hybrids from the array. The remaining signal, emanating from each gene target, was measured using a Phosphorimager. Gene expression was reported as Phosphor Stimulating Luminescence (PSL) which reflects the level of phosphor signal generated from the probe hybridized to each of the gene targets represented on the array. A local background signal subtraction was performed before the total signal generated from each array was used to normalize gene expression between the different hybridizations. The value presented after "[array code]:" represents the mean of the duplicate values, following background subtraction and probe normalization. One of skill in the art could routinely use this information to identify normal and/or diseased tissue(s) which show a predominant expression pattern of the corresponding polynucleotide of the invention or to identify polynucleotides which show predominant and/or specific tissue and/or cell expression. Column 9 provides the chromosomal location of polynucleotides corresponding to SEQ ID NO:X. Chromosomal location was determined by finding exact matches to EST and cDNA sequences contained in the NCBI (National Center for Biotechnology Information) UniGene database. Given a presumptive chromosomal location, disease locus association was determined by comparison with the Morbid Map, derived from Online Mendelian Inheritance in Man (Online Mendelian

Inheritance in Man, OMIM™. McKusick-Nathans Institute for Genetic Medicine, Johns Hopkins University (Baltimore, MD) and National Center for Biotechnology Information, National Library of Medicine (Bethesda, MD) 2000. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/). If the putative chromosomal location of the Query overlaps with the chromosomal location of a Morbid Map entry, an OMIM identification number is disclosed in column 10 labeled "OMIM Disease Reference(s)". A key to the OMIM reference identification numbers is provided in Table 5. Column 11 provides the amino acid position of the ALOM hit(s) predicted for the amino acid sequence shown in SEQ ID NO:Y.

[0035]   Table 2 summarizes homology and features of some of the polypeptides of the invention. The first column provides a unique clone identifier, "Clone ID NO:Z", corresponding to a cDNA clone disclosed in Table 1. The second column provides the unique contig identifier, "Contig ID:" corresponding to contigs in Table 1 and allowing for correlation with the information in Table 1. The third column provides the sequence identifier, "SEQ ID NO:X", for the contig polynucleotide sequence. The fourth column provides the analysis method by which the homology/identity disclosed in the Table was determined. Comparisons were made between polypeptides encoded by the polynucleotides of the invention and either a non-redundant protein database (herein referred to as "NR"), or a database of protein families (herein referred to as "PFAM") as further described below. The fifth column provides a description of the PFAM/NR hit having a significant match to a polypeptide of the invention. Column six provides the accession number of the PFAM/NR hit disclosed in the fifth column. Column seven, "Score/Percent Identity", provides a quality score or the percent identity, of the hit disclosed in columns five and six. Columns 8 and 9, "NT From" and "NT To" respectively, delineate the polynucleotides in "SEQ ID NO:X" that encode a polypeptide having a significant match to the PFAM/NR database as disclosed in the fifth and sixth columns. In specific embodiments polypeptides of the invention comprise, or alternatively consist of, an amino acid sequence encoded by a polynucleotide in SEQ ID NO:X as delineated in columns 8 and 9, or fragments or variants thereof.

[0036]   Table 3 provides polynucleotide sequences that may be disclaimed according to certain embodiments of the invention. The first column provides a unique clone identifier, "Clone ID", for a cDNA clone related to contig sequences disclosed in Table 1. The

second column provides the sequence identifier, "SEQ ID NO:X", for contig sequences disclosed in Table 1. The third column provides the unique contig identifier, "Contig ID:", for contigs disclosed in Table 1. The fourth column provides a unique integer 'a' where 'a' is any integer between 1 and the final nucleotide minus 15 of SEQ ID NO:X, and the fifth column provides a unique integer 'b' where 'b' is any integer between 15 and the final nucleotide of SEQ ID NO:X, where both a and b correspond to the positions of nucleotide residues shown in SEQ ID NO:X, and where b is greater than or equal to a + 14. For each of the polynucleotides shown as SEQ ID NO:X, the uniquely defined integers can be substituted into the general formula of a-b, and used to describe polynucleotides which may be preferably excluded from the invention. In certain embodiments, preferably excluded from the invention are at least one, two, three, four, five, ten, or more of the polynucleotide sequence(s) having the accession number(s) disclosed in the sixth column of this Table. In further embodiments, preferably excluded from the invention are the specific polynucleotide sequence(s) contained in the clones corresponding to at least one, two, three, four, five, ten, or more of the available material having the accession numbers identified in the sixth column of this Table.

[0037]   Table 4 provides a key to the tissue/cell source identifier code disclosed in Table 1, column 8. Column 1 provides the tissue/cell source identifier code disclosed in Table 1, Column 8. Columns 2-5 provide a description of the tissue or cell source. Codes corresponding to diseased tissues are indicated in column 6 with the word "disease". The use of the word "disease" in column 6 is non-limiting. The tissue or cell source may be specific (e.g. a neoplasm), or may be disease-associated (e.g., a tissue sample from a normal portion of a diseased organ). Furthermore, tissues and/or cells lacking the "disease" designation may still be derived from sources directly or indirectly involved in a disease state or disorder, and therefore may have a further utility in that disease state or disorder. In numerous cases where the tissue/cell source is a library, column 7 identifies the vector used to generate the library.

[0038]   Table 5 provides a key to the OMIM reference identification numbers disclosed in Table 1, column 10. OMIM reference identification numbers (Column 1) were derived from Online Mendelian Inheritance in Man (Online Mendelian Inheritance in Man, OMIM. McKusick-Nathans Institute for Genetic Medicine, Johns Hopkins University (Baltimore, MD) and National Center for Biotechnology Information, National Library of

Medicine, (Bethesda, MD) 2000. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/). Column 2 provides diseases associated with the cytologic band disclosed in Table 1, column 9, as determined using the Morbid Map database.

[0039]

Definitions

[0040]   The following definitions are provided to facilitate understanding of certain terms used throughout this specification.

[0041]   In the present invention, "isolated" refers to material removed from its original environment (e.g., the natural environment if it is naturally occurring), and thus is altered "by the hand of man" from its natural state. For example, an isolated polynucleotide could be part of a vector or a composition of matter, or could be contained within a cell, and still be "isolated" because that vector, composition of matter, or particular cell is not the original environment of the polynucleotide. The term "isolated" does not refer to genomic or cDNA libraries, whole cell total or mRNA preparations, genomic DNA preparations (including those separated by electrophoresis and transferred onto blots), sheared whole cell genomic DNA preparations or other compositions where the art demonstrates no distinguishing features of the polynucleotide/sequences of the present invention.

[0042]   As used herein, a "polynucleotide" refers to a molecule having a nucleic acid sequence encoding SEQ ID NO:Y or a fragment or variant thereof; a nucleic acid sequence contained in SEQ ID NO:X (as described in column 3 of Table 1) or the complement thereof; a cDNA sequence contained in Clone ID NO:Z (as described in column 2 of Table 1 and contained within the ATCC Deposit). For example, the polynucleotide can contain the nucleotide sequence of the full length cDNA sequence, including the 5' and 3' untranslated sequences, the coding region, as well as fragments, epitopes, domains, and variants of the nucleic acid sequence. Moreover, as used herein, a "polypeptide" refers to a molecule having an amino acid sequence encoded by a

14

polynucleotide of the invention as broadly defined (obviously excluding poly-Phenylalanine or poly-Lysine peptide sequences which result from translation of a polyA tail of a sequence corresponding to a cDNA).

[0043]   In the present invention, "SEQ ID NO:X" was often generated by overlapping sequences contained in multiple clones (contig analysis). A representative clone containing all or most of the sequence for SEQ ID NO:X is deposited at Human Genome Sciences, Inc. (HGS) in a catalogued and archived library. As shown, for example, in column 2 of Table 1, each clone is identified by a cDNA Clone ID (identifier generally referred to herein as Clone ID NO:Z). Each Clone ID is unique to an individual clone and the Clone ID is all the information needed to retrieve a given clone from the HGS library. Furthermore, clones disclosed in this application have been deposited with the ATCC on March 24, 2000, having the ATCC designation numbers PTA-1559. The ATCC is located at 10801 University Boulevard, Manassas, Virginia 20110-2209, USA. The ATCC deposits were made pursuant to the terms of the Budapest Treaty on the international recognition of the deposit of microorganisms for the purposes of patent procedure.

[0044]   In specific embodiments, the polynucleotides of the invention are at least 15, at least 30, at least 50, at least 100, at least 125, at least 500, or at least 1000 continuous nucleotides but are less than or equal to 300 kb, 200 kb, 100 kb, 50 kb, 15 kb, 10 kb, 7.5kb, 5 kb, 2.5 kb, 2.0 kb, or 1 kb, in length. In a further embodiment, polynucleotides of the invention comprise a portion of the coding sequences, as disclosed herein, but do not comprise all or a portion of any intron. In another embodiment, the polynucleotides comprising coding sequences do not contain coding sequences of a genomic flanking gene (i.e., 5' or 3' to the gene of interest in the genome). In other embodiments, the polynucleotides of the invention do not contain the coding sequence of more than 1000, 500, 250, 100, 50, 25, 20, 15, 10, 5, 4, 3, 2, or 1 genomic flanking gene(s).

[0045]   A "polynucleotide" of the present invention also includes those polynucleotides capable of hybridizing, under stringent hybridization conditions, to sequences contained in SEQ ID NO:X, or the complement thereof (e.g., the complement of any one, two, three, four, or more of the polynucleotide fragments described herein), the polynucleotide sequence delineated in columns 8 and 9 of Table 2 or the complement thereof, and/or cDNA sequences contained in Clone ID NO:Z (e.g., the complement of any one, two, three, four, or more of the polynucleotide fragments, or the cDNA clone within the pool of

15

cDNA clones deposited with the ATCC, described herein). "Stringent hybridization conditions" refers to an overnight incubation at 42 degree C in a solution comprising 50% formamide, 5x SSC (750 mM NaCl, 75 mM trisodium citrate), 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 μg/ml denatured, sheared salmon sperm DNA, followed by washing the filters in 0.1x SSC at about 65 degree C.

[0046]   Also contemplated are nucleic acid molecules that hybridize to the polynucleotides of the present invention at lower stringency hybridization conditions. Changes in the stringency of hybridization and signal detection are primarily accomplished through the manipulation of formamide concentration (lower percentages of formamide result in lowered stringency); salt conditions, or temperature. For example, lower stringency conditions include an overnight incubation at 37 degree C in a solution comprising 6X SSPE (20X SSPE = 3M NaCl; 0.2M NaH_2PO_4; 0.02M EDTA, pH 7.4), 0.5% SDS, 30% formamide, 100 ug/ml salmon sperm blocking DNA; followed by washes at 50 degree C with 1XSSPE, 0.1% SDS. In addition, to achieve even lower stringency, washes performed following stringent hybridization can be done at higher salt concentrations (e.g. 5X SSC).

[0047]   Note that variations in the above conditions may be accomplished through the inclusion and/or substitution of alternate blocking reagents used to suppress background in hybridization experiments. Typical blocking reagents include Denhardt's reagent, BLOTTO, heparin, denatured salmon sperm DNA, and commercially available proprietary formulations. The inclusion of specific blocking reagents may require modification of the hybridization conditions described above, due to problems with compatibility.

[0048]   Of course, a polynucleotide which hybridizes only to polyA+ sequences (such as any 3' terminal polyA+ tract of a cDNA shown in the sequence listing), or to a complementary stretch of T (or U) residues, would not be included in the definition of "polynucleotide," since such a polynucleotide would hybridize to any nucleic acid molecule containing a poly (A) stretch or the complement thereof (e.g., practically any double-stranded cDNA clone generated using oligo dT as a primer).

[0049]   The polynucleotide of the present invention can be composed of any polyribonucleotide or polydeoxribonucleotide, which may be unmodified RNA or DNA or modified RNA or DNA. For example, polynucleotides can be composed of single- and

16

double-stranded DNA, DNA that is a mixture of single- and double-stranded regions, single- and double-stranded RNA, and RNA that is mixture of single- and double-stranded regions, hybrid molecules comprising DNA and RNA that may be single-stranded or, more typically, double-stranded or a mixture of single- and double-stranded regions. In addition, the polynucleotide can be composed of triple-stranded regions comprising RNA or DNA or both RNA and DNA. A polynucleotide may also contain one or more modified bases or DNA or RNA backbones modified for stability or for other reasons. "Modified" bases include, for example, tritylated bases and unusual bases such as inosine. A variety of modifications can be made to DNA and RNA; thus, "polynucleotide" embraces chemically, enzymatically, or metabolically modified forms.

[0050]   The polypeptide of the present invention can be composed of amino acids joined to each other by peptide bonds or modified peptide bonds, i.e., peptide isosteres, and may contain amino acids other than the 20 gene-encoded amino acids. The polypeptides may be modified by either natural processes, such as posttranslational processing, or by chemical modification techniques which are well known in the art. Such modifications are well described in basic texts and in more detailed monographs, as well as in a voluminous research literature. Modifications can occur anywhere in a polypeptide, including the peptide backbone, the amino acid side-chains and the amino or carboxyl termini. It will be appreciated that the same type of modification may be present in the same or varying degrees at several sites in a given polypeptide. Also, a given polypeptide may contain many types of modifications. Polypeptides may be branched, for example, as a result of ubiquitination, and they may be cyclic, with or without branching. Cyclic, branched, and branched cyclic polypeptides may result from posttranslation natural processes or may be made by synthetic methods. Modifications include acetylation, acylation, ADP-ribosylation, amidation, covalent attachment of flavin, covalent attachment of a heme moiety, covalent attachment of a nucleotide or nucleotide derivative, covalent attachment of a lipid or lipid derivative, covalent attachment of phosphotidylinositol, cross-linking, cyclization, disulfide bond formation, demethylation, formation of covalent cross-links, formation of cysteine, formation of pyroglutamate, formylation, gamma-carboxylation, glycosylation, GPI anchor formation, hydroxylation, iodination, methylation, myristoylation, oxidation, pegylation, proteolytic processing, phosphorylation, prenylation, racemization, selenoylation, sulfation, transfer-RNA

mediated addition of amino acids to proteins such as arginylation, and ubiquitination. (See, for instance, PROTEINS - STRUCTURE AND MOLECULAR PROPERTIES, 2nd Ed., T. E. Creighton, W. H. Freeman and Company, New York (1993); POSTTRANSLATIONAL COVALENT MODIFICATION OF PROTEINS, B. C. Johnson, Ed., Academic Press, New York, pgs. 1-12 (1983); Seifter et al., Meth. Enzymol. 182:626-646 (1990); Rattan et al., Ann. N.Y. Acad. Sci. 663:48-62 (1992)).

[0051]   "SEQ ID NO:X" refers to a polynucleotide sequence described, for example, in Tables 1 or 2, while "SEQ ID NO:Y" refers to a polypeptide sequence described in column 6 of Table 1. SEQ ID NO:X is identified by an integer specified in column 4 of Table 1. The polypeptide sequence SEQ ID NO:Y is a translated open reading frame (ORF) encoded by polynucleotide SEQ ID NO:X. "Clone ID NO:Z" refers to a cDNA clone described in column 2 of Table 1.

[0052]   "A polypeptide having functional activity" refers to a polypeptide capable of displaying one or more known functional activities associated with a full-length (complete) protein. Such functional activities include, but are not limited to, biological activity, antigenicity [ability to bind (or compete with a polypeptide for binding) to an anti-polypeptide antibody], immunogenicity (ability to generate antibody which binds to a specific polypeptide of the invention), ability to form multimers with polypeptides of the invention, and ability to bind to a receptor or ligand for a polypeptide.

[0053]   The polypeptides of the invention can be assayed for functional activity (e.g. biological activity) using or routinely modifying assays known in the art, as well as assays described herein. Specifically, one of skill in the art may routinely assay polypeptides (including fragments and variants) of the invention for activity using assays as described in the Examples.

[0054]   "A polypeptide having biological activity" refers to a polypeptide exhibiting activity similar to, but not necessarily identical to, an activity of a polypeptide of the present invention, including mature forms, as measured in a particular biological assay, with or without dose dependency. In the case where dose dependency does exist, it need not be identical to that of the polypeptide, but rather substantially similar to the dose-dependence in a given activity as compared to the polypeptide of the present invention (i.e., the candidate polypeptide will exhibit greater activity or not more than about 25-fold less and, preferably, not more than about tenfold less activity, and most preferably, not

18

more than about three-fold less activity relative to the polypeptide of the present invention).

[0055]   Table 1 summarizes some of the polynucleotides encompassed by the invention (including contig sequences (SEQ ID NO:X) and clones (Clone ID NO:Z) and further summarizes certain characteristics of these polynucleotides and the polypeptides encoded thereby.

Polynucleotides and Polypeptides of the Invention

It has been discovered herein that the polynucleotides described in Table 1 are predicted to be localized to the plasma membrane of human cells. Accordingly, such polynucleotides, polypeptides encoded by such polynucleotides, and antibodies specific for such polypeptides find use in the diagnosis, treatment, and prevention of diseases associated with cell proliferation and cell signaling, particularly cancer, immune response and neuronal disorders.

Plasma membrane localization was predicted using the following method. All novel contigs in the HGS database were scored using the ALOM program developed by Klein et al. to detect potential transmembrane segments (Klein, P. et al. Biochim. Biophys. Acta 815:468 (1985); which is hereby incorporated by reference in its entirety herein). ALOM attempts to identify the most probable transmembrane segment from the average hydrophobicity value of 17-residue segments, if any. It predicts whether the segment is a transmembrane segment (INTEGRAL) or not (PERIPHERAL) comparing the discriminant score (reported as 'value') with a threshold parameter pre- defined to 0.0 for bacteria ('threshold'). For an integral membrane protein, position(s) of transmembrane segment(s) are also reported. Their length is fixed to 17 but their extension, i.e., the maximal range that satisfies the discriminant criterion, is also given in parentheses. The discrimination step mentioned above is continued after leaving out the segment till there remains no predicted transmembrane segment. The item 'count' is the number of predicted transmembrane segments.

The protein sequence used was the longest start-codon to stop-codon (or end of sequence) ORF. If the ORF was at least 100 amino acids long, and there was a predicted INTEGRAL membrane domain starting at least 40 amino acids downstream of the start

Met, the contig was selected as encoding a plasma-membrane-associated protein. The polynucleotides of the invention are predicted to be plasma membrane associated and comprise the predicted INTEGRAL membrane domains for each unique contig ID shown in column 11 of Table 1.

TABLE 1

Gene No:	Clone ID NO: Z	Contig ID:	SEQ ID NO: X	ORF (From-To)	AA SEQ ID NO: Y	Predicted Epitopes	Tissue Distribution Library code: count (see Table IV for Library Codes)	Cytologic Band	OMIM Disease Reference(s):	ALOM Results
1	HCFNH88	413036	11	64 - 471	1416	Arg-23 to Leu-33, Thr-61 to Phe-73.	AR039: 9, AR033: 5, AR053: 5, AR089: 4, AR096: 4, AR104: 4, AR055: 4, AR060: 4, AR052: 3, AR061: 3 L0619: 1, H0059: 1 and H0423: 1.			44-60
2	HODDW37	456287	12	144 - 572	1417		AR055: 15, AR060: 9, AR052: 7, AR061: 7, AR089: 6, AR033: 6, AR053: 5, AR096: 3, AR104: 1, AR039: 0 L0748: 2, H0328: 1 and H0529: 1.			104-120, 83-99
3	HPMFI38	463734	13	81 - 530	1418		AR060: 6, AR055: 3, AR053: 3, AR096: 2, AR089: 2, AR061: 2, AR033: 2, AR052: 1, AR039: 1, AR104: 1 H0031: 1.			80-104, 20-37, 56-72, 134-150
4	HLTDP38	465120	14	171 - 530	1419		AR055: 9, AR060: 6, AR096: 5, AR089: 5, AR033: 4, AR052: 4.			40-57

No.	Clone				SEQ ID	Amino acid regions	Assembled clones	Chromosome	OMIM	Coordinates
							AR061: 4, AR053: 3, AR039: 2, AR104: 1 L0662: 3, L0803: 2, L0805: 2, T0002: 1, H0090: 1, H0412: 1, L0794: 1, L0804: 1, L0655: 1, L0647: 1, L0666: 1 and L0663: 1.			
5	HMHBT30	465711	15	15 – 365	1420	Gln-20 to Ala-26, Ser-53 to Glu-60.	AR055: 6, AR060: 4, AR052: 4, AR061: 3, AR039: 3, AR089: 3, AR053: 3, AR096: 3, AR033: 3, AR104: 2 L0615: 1, S0420: 1, H0333: 1, H0286: 1, H0634: 1, H0144: 1 and HC423: 1.			90-113, 59-78, 2-18, 28-44
6	HFCBA57	466000	16	164 – 595	1421		AR033: 8, AR055: 5, AR053: 3, AR089: 3, AR052: 3, AR061: 3, AR039: 3, AR060: 3, AR104: 2, AR096: 2 L0756: 4, L0439: 2, S0412: 2, S0222: 1, H0327: 1, H0009: 1, L0157: 1 and S0031: 1.			31-57, 63-85, 4-23
7	HSRAL33	488966	17	67 – 723	1422	Met-1 to Phe-6, Ser-12 to Asp-17, Ser-100 to Ser-105, Arg-163 to Asp-176, Val-192 to Glu-199.	AR089: 7, AR096: 6, AR053: 5, AR060: 5, AR052: 4, AR039: 4, AR104: 4, AR055: 4, AR033: 3, AR061: 1	7q31	126650, 126650, 164860, 180105, 222800,	126-143

8	HSSMQ84	502907	18	20 - 415	1423	Pro-52 to Pro-57.	AR055: 8, AR052: 5, AR033: 4, AR061: 4, AR060: 4, AR089: 3, AR096: 3, AR039: 3, AR104: 3, AR053: 3 L0596: 2, L0588: 2, H0135: 1, H0056: 1, L0369: 1, L0803: 1, H0520: 1, S0027: 1 and S0276: 1.	L0777: 4, L0766: 3, H0014: 2, L0731: 2, L0758: 2, S0282: 1, S0007: 1, S0280: 1, H0575: 1, H0328: 1, L0369: 1, L0637: 1, L0771: 1, L0768: 1, L0803: 1, L0655: 1, L0809: 1, S0380: 1, H0521: 1, H0627: 1, S3014: 1, L0748: 1, L0608: 1, S0011: 1 and S0192: 1.	246900, 274600, 274600, 602081	89-105
9	HUKAB82	503441	19	74 - 424	1424	Leu-9 to Arg-18, Phe-109 to Gly-115.	AR060: 140, AR055: 117, AR104: 113, AR039: 111, AR061: 92, AR033: 72, AR053: 70, AR052: 66, AR089: 55, AR096: 21 L0748: 5, L0749: 5, L0439: 3, L0779: 2, L0731: 2, H0556: 1, S0356: 1, H0575: 1, H0597: 1, H0551:		72-90

10	HDPPP46	506828	20	29 - 328	1425	1, H0413: 1, H0059: 1, L0770: 1, L0771: 1, L0655: 1, H0144: 1, S0378: 1, L0747: 1 and S0276: 1. AR096: 4, AR033: 3, AR039: 3, AR089: 3, AR055: 3, AR052: 2, AR061: 2, AR053: 1, AR060: 1, AR104: 1 L0766: 4, H0617: 2, L0662: 2, H0690: 2, H0295: 1, H0662: 1, S0354: 1, H0729: 1, H0318: 1, H0545: 1, H0266: 1, H0401: 1, H0135: 1, H0087: 1, L5575: 1, L0803: 1, L0523: 1, L0383: 1, L0665: 1, H0703: 1, H0539: 1, H0521: 1, H0522: 1, S0406: 1, S0028: 1, L0779: 1 and H0352: 1.	52-68
11	HMTME11	506893	21	72 - 425	1426	Met-1 to Arg-11, Gly-30 to Arg-39. AR052: 5, AR053: 5, AR096: 4, AR055: 4, AR089: 4, AR033: 3, AR060: 3, AR039: 2, AR104: 2, AR061: 2 L0775: 3, H0624: 2, L0471: 2, S0051: 2, L0768: 2, H0659: 2, L0759: 2, L0605: 2, S0192: 2, S0114:	100-118

| 12 | HBMUK46 | 507310 | 22 | 12 - 386 | 1427 | 1, S0116: 1, H0638: 1, H0125: 1, H0489: 1, S0222: 1, L0623: 1, T0115: 1, H0327: 1, H0687: 1, T0023: 1, H0031: 1, H0673: 1, L0065: 1, L0520: 1, L0769: 1, L0653: 1, L0783: 1, L0809: 1, L0519: 1, L0543: 1, H0658: 1, H0670: 1, H0672: 1, S0330: 1, S0378: 1, S0380: 1, H0525: 1, H0436: 1, S3012: 1, L0777: 1, L0731: 1, H0653: 1, H0543: 1, H0422: 1 and H0352: 1. | 9-41, 83-106, 54-76 |
| | | | | | | AR055: 11, AR060: 8, AR033: 5, AR061: 5, AR052: 5, AR089: 4, AR104: 4, AR096: 4, AR039: 4, AR053: 4 L0439: 4, L0803: 3, H0590: 2, L0483: 2, H0163: 2, L0805: 2, S0374: 2, H0658: 2, H0696: 2, H0717: 1, S0116: 1, S0358: 1, L0717: 1, H0052: 1, H0194: 1, H0184: 1, L0738: 1, H0545: 1, S0316: 1, S0003: 1, S0364: 1, S0366: 1, S0036: 1, H0272: 1, L0638: | |

13	HETDT70	509728	23	25 - 597	1428	1, L0766: 1, L0776: 1, L0789: 1, L0664: 1, L0665: 1, H0710: 1, H0521: 1, S0013: 1, S0406: 1, L0744: 1, L0752: 1, L0758: 1, L0605: 1, S0026: 1 and H0543: 1.	AR052: 319, AR096: 250, AR089: 171, AR060: 143, AR053: 121, AR104: 71, AR039: 57, AR033: 51, AR061: 51, AR055: 14 L0752: 3, L0748: 2, L0740: 2, L0731: 2, S0358: 1, H0438: 1, H0574: 1, H0046: 1, H0041: 1, H0272: 1, S0150: 1, L0794: 1, L0803: 1, L0804: 1, L0775: 1, L0661: 1, L0789: 1, H0672: 1, H0539: 1, L0758: 1 and S0436: 1.	138-154, 8-24
14	HPWBL19	521848	24	60 - 362	1429	Pro-15 to Ser-21, Ser-60 to Tyr-65, Glu-90 to Asp-101.	AR033: 1, AR089: 1, AR053: 1, AR104: 1, AR061: 1, AR096: 0, AR055: 0, AR060: 0, AR052: 0 L0766: 6, L0740: 5, H0135: 1, L0769: 1, L0383: 1, S0044: 1, L0750: 1 and	62-89, 25-46

15	HMKAD85	523186	25	48 - 422	1430	L0752: 1. AR033: 2, AR053: 2, AR089: 1, AR104: 1, AR061: 1, AR055: 1, AR060: 1, AR096: 0, AR039: 0, AR052: 0 S0007: 2, H0392: 2, L0745: 1, L0753: 1, L0759: 1 and L0589: 1.			88-104, 49-65
16	HE9NE12	524559	26	68 - 598	1431	Lys-12 to Lys-17, Thr-39 to Lys-45, Thr-49 to Glu-57, Thr-59 to Glu-69, Glu-80 to Ile-90, Gly-122 to Met-127, Lys-170 to Asn-177.	AR104: 1, AR096: 1, AR033: 1, AR089: 1, AR060: 1, AR061: 1, AR052: 0, AR055: 0, AR053: 0, AR039: 0 L0766: 5, L0438: 4, L0439: 4, L0803: 3, L0759: 3, H0445: 3, H0046: 2, L0157: 2, L0762: 2, L0363: 2, L0794: 2, L0774: 2, L0776: 2, L0790: 2, L0666: 2, H0144: 2, L0748: 2, L0749: 2, H0556: 1, H0159: 1, H0716: 1, H0459: 1, S0418: 1, L0005: 1, H0580: 1, S0046: 1, H0612: 1, H0586: 1, H0050: 1, L0471: 1, H0615: 1, H0488: 1, S0426: 1, H0529: 1, L0520: 1, L0638: 1, L0667: 1,		96-113

17	HE2AX73	525950	27	12 - 317	1432	Leu-15 to Ser-21.	L0373: 1, L0378: 1, L0805: 1, L0659: 1, L0526: 1, L0809: 1, L0663: 1, S0374: 1, H0711: 1, H0670: 1, H0521: 1, L0777: 1, L0780: 1, L0485: 1, L0097: 1, S0192: 1, H0543: 1, H0423: 1 and H0506: 1. AR053: 4, AR061: 4, AR052: 3, AR055: 3, AR039: 3, AR060: 3, AR089: 2, AR096: 2, AR033: 1, AR104: 1 H0170: 2	8p23	148370	81-102, 22-38
18	HHGBV89	527491	28	53 - 376	1433	Arg-56 to Phe-61.	AR055: 16, AR061: 7, AR052: 7, AR060: 6, AR033: 5, AR089: 5, AR053: 5, AR096: 3, AR039: 0, AR104: 0 H0052: 5, L0748: 5, L0756: 4, L0731: 4, S0360: 3, L0764: 3, L0747: 3, L0749: 3, H0255: 2, H0333: 2, L0055: 2, L0653: 2, L0740: 2, L0754: 2, L0750: 2, L0596: 2, H0352: 2, H0556: 1, H0341: 1, H0662: 1, H0306: 1, H0402: 1, H0036: 1, H0434: 1, H0150:			64-80, 15-31

19	HTTDC06	529791	29	1 - 405	1434	Lys-13 to Asp-24, Pro-32 to Arg-40.	1, H0252: 1, L0456: 1, H0135: 1, H0413: 1, H0059: 1, H0529: 1, L0770: 1, L0769: 1, L0630: 1, L0521: 1, L0662: 1, L0775: 1, L0776: 1, L0493: 1, H0684: 1, S0328: 1, S0044: 1, L0777: 1, L0752: 1, L0755: 1, L0758: 1 and S0242: 1.	48-65
20	HFXKR35	532045	30	531 - 16	1435	Asn-54 to Gly-60, Pro-166 to Pro-171.	AR039: 14, AR055: 14, AR033: 11, AR053: 11, AR052: 11, AR060: 10, AR104: 10, AR096: 9, AR089: 8, AR061: 8, S0380: 2, L0742: 2, L0779: 2, L0759: 2, H0333: 1, H0039: 1, H0040: 1, H0625: 1, H0561: 1, L0666: 1, L0663: 1, H0672: 1, L0747: 1, L0777: 1, L0758: 1 and H0444: 1. AR089: 1, AR061: 1, AR053: 1, AR096: 1, AR060: 1, AR104: 1, AR033: 0, AR055: 0, AR039: 0, AR052: 0 L0777: 5, S0436: 5, S0116: 3, L0805: 3, L0809: 3, H0696: 3, H0423: 3, S0282:	125-157, 4-29, 67-86, 36-52, 106-122

21	HHSDL85	53441-1	31	17 - 373	1436		56-73
					Ser-7 to Gln-20, Pro-24 to Phe-34, Gly-76 to Gly-84.	2, S0354: 2, H0083: 2, H0316: 2, L0763: 2, L0767: 2, L0776: 2, S0406: 2, L0779: 2, S0114: 1, H0657: 1, H0656: 1, S0358: 1, S0444: 1, S0360: 1, H0340: 1, S0046: 1, H0619: 1, H0455: 1, H0333: 1, H0574: 1, I0559: 1, T0109: 1, H0156: 1, L0021: 1, T0074: 1, H0618: 1, H0318: 1, S0474: 1, S0049: 1, H0327: 1, H0530: 1, H0615: 1, H0553: 1, H0673: 1, H0708: 1, H0059: 1, L0065: 1, S0438: 1, H0207: 1, S0422: 1, L0520: 1, L0769: 1, L0761: 1, L0521: 1, L0774: 1, L0655: 1, L0659: 1, L0526: 1, L0793: 1, L0666: 1, L0664: 1, H0659: 1, H0518: 1, S0268: 1, S0176: 1, H0478: 1, S0390: 1, L0748: 1, L0750: 1, L0755: 1, L0731: 1, L0608: 1, L0362: 1, S0026: 1 and S0242: 1. AR055: 4, AR039: 3, AR060: 2, AR033: 2, AR053: 2, AR061: 2,	

No.	Clone	ID	No.	Range	SEQ ID	Amino acid changes	Expression data	Additional data	Chromosome	Accession Nos.	Position
22	HTECA32	535036	32	88 - 438	1437	Pro-15 to Thr-24, Glu-39 to Trp-47.	AR033: 54, AR055: 51, AR061: 43, AR089: 40, AR053: 38, AR060: 38, AR052: 26, AR096: 11, AR104: 10, AR039: 5 H0038: 2	AR104: 2, AR089: 2, AR096: 2, AR052: 2 S0007: 3, S0001: 1, H0618: 1, H0009: 1, S0051: 1, L0763: 1, L0439: 1 and L0758: 1.			49-65
23	HTEHL79	535040	33	37 - 453	1438	Arg-14 to Asp-20.	AR033: 112, AR052: 80, AR096: 68, AR053: 67, AR089: 65, AR104: 61, AR060: 58, AR061: 55, AR039: 52, AR055: 38 H0052: 2, H0616: 2, L0779: 2, L0777: 2, H0656: 1, H0549: 1, H0038: 1, L0748: 1, L0758: 1, L0601: 1 and H0543: 1.				49-65
24	HPJBL54	536712	34	156 - 488	1439		AR055: 17, AR053: 9, AR060: 9, AR033: 9, AR061: 8, AR039: 7, AR089: 6, AR052: 6, AR104: 6, AR096: 5 S0418: 3, L0439: 3, L0595: 2, H0542: 2, H0656:		15q15.1	114240, 224120, 600839, 602099	46-62, 26-42

25	HSDDD20	538217	35	64 - 753	1440	Asp-46 to Glu-59.	AR096: 1, AR055: 1, AR089: 1, AR060: 1, AR039: 1, AR033: 0, AR061: 0, AR053: 0, AR052: 0, AR104: 0 S0028: 3, S0001: 2, H0617: 2, L0361: 2, S0356: 1, S0045: 1, H0619: 1, S0278: 1, H0250: 1, H0231: 1, I0181: 1, S0390: 1 and S0031: 1.			81-98, 13-29, 175-191, 62-78
							1, H0638: 1, S0420: 1, S0045: 1, H0253: 1, H0267: 1, H0553: 1, S0150: 1, L0438: 1, H0519: 1, S0126: 1, H0660: 1, S0152: 1 and H0543: 1.			
26	HCUCG74	550208	36	588-929	1441		AR052: 3, AR096: 2, AR053: 2, AR033: 2, AR089: 2, AR061: 2, AR060: 1, AR055: 1, AR104: 1, AR039: 0 L0789: 4, H0306: 2, L0809: 2, L0759: 2, L0596: 2, H0402: 1, H0580: 1, H0550: 1, H0370: 1, H0404: 1, H0559: 1, H0486: 1, H0031: 1, H0674: 1, H0135: 1, H0100: 1, L0800: 1,			177-193, 149-165

27	HFIXK94	550992	37	96 - 404	1442		L0794: 1, L0804: 1, L0805: 1, L0515: 1, L0783: 1, H0672: 1, L0777: 1, H0444: 1 and H0352: 1. AR033: 4, AR089: 3, AR060: 2, AR055: 2, AR052: 1, AR053: 1, AR061: 1, AR096: 0, AR039: 0, AR104: 0 S0242: 1 and S0196: 1.	38-59
28	HPJAV46	551777	38	24 - 362	1443	Pro-69 to Gln-77.	AR089: 45, AR096: 43, AR060: 39, AR039: 37, AR055: 27, AR104: 20, AR033: 20, AR052: 19, AR053: 14, AR061: 14 H0250: 60, S0126: 24, H0013: 9, H0124: 9, H0494: 9, H0521: 7, H0428: 6, H0553: 6, H0644: 6, H0038: 6, S0027: 6, S0040: 5, T0039: 5, H0050: 5, L0471: 5, H0135: 5, H0551: 5, T0067: 5, H0144: 5, H0539: 5, S0028: 5, L0439: 5, L0740: 5, H0171: 4, S0356: 4, S0046: 4, H0586: 4, H0486: 4, H0599: 4, H0046: 4, H0024: 4, H0266: 4, S0003: 4, H0040: 4, H0059:	7-37, 89-113, 45-62

4, S0152: 4, L0603: 4,
H0556: 3, S0222: 3, H0574:
3, H0156: 3, S0010: 3,
H0581: 3, H0620: 3, H0014:
3, H0015: 3, H0373: 3,
S0022: 3, H0031: 3, H0547:
3, H0519: 3, H0522: 3,
L0748: 3, H0624: 2, H0265:
2, H0295: 2, S0212: 2,
H0484: 2, H0661: 2, H0125:
2, S0418: 2, H0208: 2,
S0045: 2, H0619: 2, H0645:
2, H0550: 2, H0431: 2,
H0370: 2, H0427: 2, H0575:
2, H0618: 2, S0049: 2,
H0530: 2, H0545: 2, H0012:
2, H0375: 2, H0179: 2,
H0286: 2, H0615: 2, H0039:
2, H0622: 2, H0032: 2,
H0068: 2, H0090: 2, H0616:
2, H0264: 2, H0268: 2,
H0100: 2, T0042: 2, S0294:
2, S0142: 2, H0517: 2,
H0651: 2, S0037: 2, H0506:
2, H0157: 1, H0294: 1,
H0671: 1, H0662: 1, S0420:
1, S0358: 1, S0376: 1,
S0360: 1, H0580: 1, H0393:
1, H0437: 1, H0369: 1,
H0549: 1, H0357: 1, H0409:

1, H0602: 1, H0587: 1,
H0642: 1, L0477: 1, T0040:
1, H0635: 1, H0097: 1,
H0036: 1, S0346: 1, H0421:
1, H0230: 1, H0196: 1,
H0251: 1, T0115: 1, H0086:
1, H0009: 1, H0081: 1,
H0197: 1, H0023: 1, H0023:
1, H0107: 1, T0010: 1,
H0271: 1, S0318: 1, S0334:
1, S0316: 1, H0284: 1,
S0314: 1, S0250: 1, S0214:
1, H0328: 1, L0483: 1,
H0212: 1, H0708: 1, S0036:
1, H0634: 1, H0488: 1,
H0433: 1, H0056: 1, H0623:
1, T0069: 1, H0560: 1,
H0561: 1, S0448: 1, S0440:
1, H0509: 1, H0131: 1,
S0150: 1, S0144: 1, S0344:
1, S0208: 1, S0210: 1,
S0426: 1, H0529: 1, L0384:
1, S0216: 1, S0148: 1,
H0593: 1, H0435: 1, H0658:
1, H0666: 1, H0518: 1,
S0004: 1, H0134: 1, H0436:
1, S0432: 1, S0390: 1,
S3014: 1, L0754: 1, L0746:
1, L0758: 1, L0596: 1,
L0605: 1, L0592: 1, L0581:

29	HTTDL61	558312	39	21 - 329	1444		I, L0593: 1, L0595: 1, S0011: 1, H0668: 1, S0026: 1, S0446: 1 and H0293: 1. AR053: 16, AR096: 14, AR052: 14, AR055: 13, AR089: 11, AR060: 9, AR033: 9, AR104: 6, AR061: 5, AR039: 3 H0038: 8, H0616: 4, L0779: 3, L0758: 3, L0753: 2, L0032: 1, T0006: 1, H0040: 1, S0002: 1, L0768: 1, S0053: 1 and H0547: 1.		42-67, 3-19
30	HFPBN94	561612	40	1235 - 885	1445	Ser-60 to Ser-66.	AR039: 13, AR053: 11, AR055: 9, AR089: 9, AR033: 9, AR060: 7, AR096: 7, AR052: 7, AR061: 5, AR104: 5 S0222: 1		36-61, 92-110
31	HYBBG69	562024	41	401 - 1144	1446	Arg-35 to Cys-46, Phe-52 to Met-57, Thr-70 to Gly-84, Thr-88 to Glu-109, Gly-151 to Gly-159, Ser-167 to Thr-175, Ala-193 to Phe-206, Arg-215 to Gly-223.	AR052: 4, AR061: 3, AR055: 3, AR053: 3, AR089: 2, AR033: 2, AR060: 2, AR039: 1, AR096: 1, AR104: 1 S0002: 70, S0426: 29, S0278: 28, S0003: 28, H0521: 28, S0344: 27, S0142: 14, L0747: 14, S0144: 13, H0090: 13,		1-33, 230-247, 125-141

S0126: 13, H0580: 10,
S0214: 10, H0591: 10,
L0659: 10, L0731: 10,
H0575: 9, S0360: 8, H0046:
8, L0759: 8, H0586: 6,
H0545: 6, L0771: 6, L0663:
6, L0756: 6, H0013: 5,
H0042: 4, H0622: 4, H0040:
4, I10522: 4, L0777: 4,
H0587: 3, H0318: 3, H0581:
3, H0546: 3, H0014: 3,
L0163: 3, H0030: 3, L0775:
3, L0651: 3, L0805: 3,
L0606: 3, S0374: 3, H0519:
3, H0518: 3, L0740: 3,
L0755: 3, H0583: 2, S0116:
2, H0637: 2, H0486: 2,
H0251: 2, H0012: 2, H0375:
2, H0416: 2, S0250: 2,
H0553: 2, H0163: 2, H0038:
2, H0063: 2, H0538: 2,
L0770: 2, L0646: 2, L0662:
2, L0649: 2, L0666: 2,
L0565: 2, S0328: 2, S0380:
2, S0044: 2, L0744: 2,
L0750: 2, L0752: 2, L0758:
2, S0031: 2, L0591: 2,
L0599: 2, H0668: 2, S0192:
2, S0194: 2, S0282: 1,
H0661: 1, H0662: 1, H0306:

| 32 | HDPOJ05 | 562077 | 42 | 350 - | 1447 | Met-1 to Gly-6, | 1, H0638: 1, S0358: 1, S0376: 1, T0008: 1, S0132: 1, H0619: 1, H0645: 1, H0351: 1, H0411: 1, L0623: 1, H0427: 1, S0280: 1, L0022: 1, T0082: 1, H0036: 1, H0390: 1, L0105: 1, H0544: 1, H0041: 1, H0009: 1, H0620: 1, H0015: 1, H0373: 1, S6028: 1, H0039: 1, H0031: 1, H0644: 1, L0142: 1, L0143: 1, H0673: 1, H0674: 1, S0364: 1, H0316: 1, T0067: 1, H0100: 1, H0494: 1, S0370: 1, S0466: 1, H0509: 1, L0763: 1, L0769: 1, L0638: 1, L0373: 1, L0764: 1, L0561: 1, L0803: 1, L0774: 1, L0375: 1, L0806: 1, L0653: 1, L0776: 1, L0655: 1, L0607: 1, L0657: 1, L0782: 1, L0529: 1, L0790: 1, L0664: 1, H0144: 1, H0684: 1, H0435: 1, H0672: 1, S0330: 1, H0555: 1, S3012: 1, L0748: 1, L0757: 1, H0595: 1, L0584: 1, L0597: 1 and H0352: 1. AR096: 1, AR089: 1, | | | 35-62 |

| 33 | IMAGF64 | 562775 | 43 | 39 - 428 | 664 | Pro-23 to Asp-37. | AR061: 0, AR055: 0, AR033: 0, AR104: 0, AR053: 0, AR052: 0, AR060: 0 H0250: 5, L0740: 4, H0657: 3, L0761: 3, L0659: 3, L0809: 3, L0717: 2, H0620: 2, H0135: 2, H0063: 2, H0100: 2, L0789: 2, L0751: 2, L0750: 2, L0731: 2, H0543: 2, S0116: 1, H0255: 1, H0664: 1, H0580: 1, H0253: 1, H0581: 1, H0421: 1, H0123: 1, H0179: 1, H0617: 1, H0606: 1, H0163: 1, L0638: 1, L0771: 1, L0794: 1, L0766: 1, L0650: 1, L0655: 1, L0783: 1, L0532: 1, L0666: 1, H0520: 1, H0547: 1, H0660: 1, H0648: 1, S0380: 1, H0521: 1, H0522: 1, H0555: 1, L0756: 1, L0779: 1, S0436: 1 and S0276: 1. | 42-66, 67-84, 9-25 |
| | | | | 1448 | | Leu-30 to Thr-35, Phe-38 to Gly-44. | AR052: 7, AR053: 4, AR089: 3, AR060: 3, AR096: 3, AR033: 2, AR061: 2, AR039: 2, AR055: 2, AR104: 2 S0278: 1 and H0445: 1. | |

34	HACCO038	563589	143 - 700	44	Lys-14 to Asp-24, Gln-114 to Leu-119, Asp-122 to Arg-127.	AR053: 12, AR052: 11, AR089: 8, AR096: 8, AR055: 7, AR060: 7, AR033: 5, AR061: 5, AR104: 4, AR039: 3 T0023: 2, L0662: 2, S0330: 2, L0749: 2, L0758: 2, S0356: 1, S0358: 1, S0360: 1, S0408: 1, L0586: 1, S0280: 1, H0590: 1, H0581: 1, H0052: 1, H0014: 1, S0003: 1, H0316: 1, H0591: 1, S0450: 1, S0150: 1, S0426: 1, L0766: 1, S0216: 1, L0747: 1, L0756: 1, L0752: 1 and L0596: 1.	138-155, 83-99, 35-51, 59-75
35	HRAAM31	567314	14 - 355	45	Met-1 to Gly-6.	AR039: 35, AR053: 29, AR104: 28, AR033: 25, AR052: 23, AR096: 22, AR055: 19, AR089: 18, AR060: 13, AR061: 10 H0555: 1	23-40, 50-66
36	HWDAAO3	571474	296 - 670	46	.	AR096: 2, AR089: 1, AR039: 1, AR052: 1, AR033: 1, AR104: 1, AR060: 0, AR061: 0, AR055: 0 H0600: 1 and S0002: 1.	71-87, 98-114
37	HTHCV60	572607	93 - 473	47		AR096: 14, AR089: 12,	73-89,

#	Name	ID		Range	No.	Description	Values	
38	HTLEV17	573110	48	15 - 428	1453		AR055: 8, AR060: 8, AR052: 8, AR033: 6, AR053: 6, AR039: 4, AR061: 4, AR104: 3 H0556: 1, H0050: 1, H0063: 1 and H0494: 1.	111-127, 34-50
							AR039: 14, AR033: 10, AR053: 9, AR055: 7, AR104: 7, AR089: 7, AR096: 6, AR052: 5, AR060: 5, AR061: 4 L0741: 3, L0438: 2, S0222: 1, H0427: 1, H0618: 1, H0253: 1, H0284: 1, S0038: 1, H0494: 1, S0144: 1, L0743: 1 and L0366: 1.	84-101
39	HCFAB91	573179	49	70 - 438	1454	Lys-22 to Gly-28, Lys-39 to Glu-48, Ser-54 to Trp-59.	AR089: 4, AR096: 3, AR033: 3, AR052: 3, AR060: 2, AR055: 2, AR053: 1, AR061: 1, AR104: 1, AR039: 0 H0422: 2, H0339: 1 and L0769: 1.	68-88
40	HMWEE18	573751	50	356 - 700	1455	His-13 to Ser-21.	AR055: 11, AR060: 7, AR052: 5, AR089: 5, AR061: 5, AR033: 5, AR053: 5, AR096: 4, AR039: 4, AR104: 3 L0747: 3, L0754: 2,	81-115

41

| 41 | ITLAI85 | 574924 | 51 | 46 - 354 | 1456 | L0599: 2, H0713: 1, H0341: 1, S0360: 1, H0601: 1, H0592: 1, H0123: 1, H0494: 1, H0660: 1, L0756: 1 and L0779: 1. | AR053: 16, AR052: 14, AR096: 12, AR089: 10, AR104: 7, AR060: 6, AR055: 6, AR033: 5, AR061: 3, AR039: 3 H0617: 7, L0438: 6, L0439: 5, H0253: 4, L0794: 3, L0766: 3, L0791: 3, H0618: 2, S0344: 2, L0769: 2, L0662: 2, L0758: 2, H0556: 1, H0733: 1, H0333: 1, T0040: 1, H0013: 1, H0575: 1, H0318: 1, H0052: 1, H0178: 1, H0023: 1, H0083: 1, T0023: 1, H0606: 1, H0135: 1, T0004: 1, H0509: 1, S0144: 1, L0803: 1, L4501: 1, L0663: 1, L0665: 1, H0672: 1, H0631: 1, L0744: 1, L0747: 1, L0756: 1, L0779: 1, L0731: 1, S0436: 1, S0194: 1 and H0542: 1. | 46-62 |
| 42 | HHPGQ38 | 575287 | 52 | 225 - | 1457 | Leu-3 to Gln-18. | AR055: 14, AR060: 13, | 61-79 |

#	Name			Range	SEQ ID NO	Amino acid regions	Residue data	Regions
43	IHNGER82	576739	53	530			AR089: 12, AR096: 10, AR052: 8, AR033: 8, AR061: 7, AR053: 5, AR104: 0, AR039: 0 L0756: 2, H0051: 1, S0380: 1, L0748: 1 and L0753: 1.	68-86, 89-108, 40-56
				229 - 639	1458	Gln-22 to Gly-28, Thr-109 to Gly-114, Phe-117 to Arg-124.	AR033: 4, AR089: 3, AR060: 3, AR104: 1, AR061: 1, AR053: 1, AR096: 1, AR039: 0, AR052: 0, AR055: 0 L0748: 5, H0444: 2, H0402: 1, L0367: 1 and S0052: 1.	
44	HBJLU13	578925	54	252 - 551	1459	Gly-35 to Gln-41, Phe-51 to Lys-57.	AR060: 10, AR089: 8, AR033: 7, AR104: 2, AR061: 1, AR053: 1, AR096: 1, AR055: 1, AR039: 0 H0123: 2 and H0318: 1.	63-84
45	IICFDC55	581501	55	73 - 426	1460		AR033: 5, AR052: 4, AR089: 4, AR053: 4, AR055: 3, AR060: 2, AR096: 2, AR061: 2, AR039: 1 L0438: 4, L0803: 3, H0169: 2, L0526: 2, H0657: 1, S0408: 1, H0421: 1,	53-75, 92-112, 25-45

46	HFKCT25	586810	56	178 - 591	1461	Leu-12 to Gly-18, Tyr-27 to Glu-34, Lys-127 to Pro-132.	H0050: 1, S0370: 1, L0637: 1, L0646: 1, L0800: 1, L0662: 1, L0766: 1, L0607: 1, L0659: 1, L0665: 1, L0352: 1, H0659: 1, H0651: 1, S0328: 1, H0436: 1, L0777: 1, L0752: 1, S0242: 1 and H0422: 1.	AR053: 2, AR089: 2, AR060: 2, AR096: 1, AR055: 1, AR061: 1, AR033: 1, AR104: 1, AR039: 0, AR052: 0 H0012: 3, L0794: 3, L0766: 2, L0788: 2, S0192: 2, H0618: 1, H0015: 1, H0073: 1, T0023: 1, H0063: 1, L0763: 1, L0787: 1, L0532: 1, S3012: 1, S0027: 1, L0747: 1, L0750: 1, L0731: 1 and S0276: 1.			83-101, 62-78
47	HAPOW05	587520	57	13 - 330	1462	Lys-2 to Ser-10, Gln-20 to Leu-25, Val-29 to Arg-53.	AR055: 15, AR039: 15, AR033: 13, AR104: 12, AR061: 12, AR053: 10, AR089: 9, AR060: 9, AR052: 8, AR096: 8 L0748: 2 and H0575: 1.			66-82
48	HCUFP05	589293	58	660 - 331	1463	Gly-2 to Leu-7, Pro-11 to Leu-26,	AR033: 4, AR089: 3, AR096: 2, AR061: 2,	11q13	102200, 106100,	57-86

| 49 | HE8CX53 | 597069 | 59 | 161 - 514 | 1464 | Gln-28 to Pro-41, Lys-94 to Pro-108. | AR096: 16, AR053: 14, AR055: 14, AR052: 11, AR060: 8, AR089: 8, AR033: 8, AR104: 7, | Xq22.3-q23 | 300046, 300067, 300067, 300121, | 56-72, 1-17, 76-92 |
| | | | | | | Gly-28 to Ala-40, Arg-51 to Pro-58, Asp-92 to Leu-97. | AR060: 2, AR055: 2, AR104: 1, AR039: 0, AR052: 0, AR053: 0 L0769: 9, L0752: 6, L0747: 5, L0759: 5, L0764: 4, L0806: 4, L0758: 4, H0549: 3, L0770: 3, L0783: 3, L0750: 3, S0408: 2, H0687: 2, L0771: 2, L0662: 2, L0794: 2, L0775: 2, L0805: 2, L0776: 2, L0809: 2, L0666: 2, L0756: 2, L0779: 2, L0757: 2, H0294: 1, S0134: 1, H0664: 1, H0402: 1, H0586: 1, H0486: 1, L0021: 1, H0081: 1, H0012: 1, H0014: 1, H0688: 1, T0006: 1, L0763: 1, L5565: 1, L0761: 1, L0772: 1, L0800: 1, L0773: 1, L0767: 1, L0768: 1, L0766: 1, L0803: 1, L0774: 1, L0659: 1, L0788: 1, L0792: 1, H0520: 1, H0670: 1, L0786: 1, L0777: 1 and L0731: 1. | | 131100, 131100, 131100, 133780, 147050, 153700, 161015, 164009, 168461, 168461, 168461, 180721, 180840, 191181, 193235, 209901, 232600, 259700, 259770, 600045, 600319, 600528, 601884 | |

No.	Clone ID		SEQ ID NO (NT)	NT region	SEQ ID NO (AA)	Mature	Tissue/library expression	Chromosomal location	Accession / OMIM numbers	AA residues
50	HCENB31	597213	60	65 - 508	1465		AR061: 6, AR039: 5, L0439: 5, L0608: 4, L0005: 3, H0013: 3, L0759: 3, L0594: 3, H0329: 2, L0776: 2, S0001: 1, H0156: 1, L0157: 1, H0040: 1, H0264: 1, S0038: 1, H0100: 1, H0538: 1, L0769: 1, H0144: 1, H0547: 1, L0777: 1 and H0008: 1.	9q22.1-q22.3	162400, 227645, 229700, 278700, 601309, 601309, 602014, 602088, 300121, 301201, 301835, 311850	42-60, 4-22
51	H7TME55	597832	61	151 - 498	1466	Val-40 to Tyr-45.	AR104: 19, AR033: 15, AR039: 5, AR061: 5, AR053: 5, AR096: 5, AR052: 4, AR055: 4, AR089: 4, AR060: 3 H0052: 3, S0001: 2, S0222: 1, H0194: 1, L0157: 1, L0369: 1, L0769: 1, L0767: 1, L0794: 1, H0144: 1 and L0438: 1. AR053: 1, AR055: 1, AR096: 1, AR089: 1, AR061: 0, AR060: 0, AR104: 0, AR033: 0, AR052: 0, AR039: 0 S0184: 26 and S0186: 8.	10q11.2-q21.1	129010, 154545, 164761, 164761, 164761, 164761, 188550, 601386, 601493	47-66, 16-32

52	HDHMA49	600734	62	75 - 539	1467	Ser-15 to His-22, Pro-46 to Pro-52, Gly-63 to Ser-69, Arg-111 to Ser-116, Pro-121 to Asn-129, Ala-136 to Gly-145.	AR060: 18, AR055: 16, AR104: 14, AR061: 14, AR033: 11, AR089: 11, AR039: 7, AR096: 6, AR053: 5, AR052: 4 L0439: 13, L0438: 6, H0052: 3, H0009: 2, L0769: 2, L0794: 2, L0741: 2, H0229: 1, H0572: 1, H0569: 1, L0770: 1, L0796: 1, L5566: 1, L0805: 1, L0789: 1 and L0786: 1.	80-111
53	HBXBG68	610609	63	18 - 362	1468		AR096: 5, AR055: 3, AR039: 2, AR061: 2, AR033: 2, AR089: 2, AR104: 2, AR052: 2, AR060: 1, AR053: 1 S0038: 1	60-77
54	HGBFC53	613240	64	122 - 472	1469	Thr-8 to Glu-13, Thr-89 to Leu-96.	AR033: 10, AR055: 9, AR104: 6, AR052: 5, AR089: 5, AR096: 5, AR060: 5, AR061: 4, AR053: 4, AR039: 2 L0757: 13, L0759: 7, L0747: 6, T0010: 5, L0748: 5, L0770: 4, L0764: 4, L0750: 4, H0031: 3, L0438: 3, L0756: 3, L0758: 3, H0013: 2, S0010: 2, H0135:	100-116, 14-30

2, L0598: 2, L0761: 2, L0646: 2, L0766: 2, L0775: 2, L0806: 2, L0776: 2, L0657: 2, L0659: 2, L0666: 2, S0328: 2, L0439: 2, L0777: 2, L0731: 2, L0592: 2, L0362: 2, H0265: 1, H0556: 1, H0222: 1, S0418: 1, L0005: 1, S0356: 1, S0358: 1, S0468: 1, H0208: 1, S0046: 1, H0619: 1, S0222: 1, H0370: 1, H0587: 1, H0497: 1, H0331: 1, H0486: 1, T0039: 1, H0156: 1, H0575: 1, T0082: 1, H0706: 1, S0346: 1, H0318: 1, H0581: 1, H0052: 1, H0309: 1, H0545: 1, H0178: 1, H0123: 1, S0050: 1, H0014: 1, H0051: 1, S6028: 1, H0286: 1, H0328: 1, H0032: 1, L0455: 1, H0316: 1, H0164: 1, S0386: 1, L0351: 1, L0435: 1, T0042: 1, H0359: 1, H0646: 1, H0026: 1, L0763: 1, L0796: 1, L0662: 1, L0626: 1, L0767: 1, L0387: 1, L0651: 1, L0655: 1, L0807: 1, L0658: 1, L0558: 1, L0783:

No.	Clone	ID		Range	SEQ ID	Region	Contacts	AR contacts			Range
55	HPMCK47	613734	65	336 - 767	1470	Thr-91 to Pro-97.	1, L0809: 1, L0543: 1, L0647: 1, L0665: 1, H0698: 1, S0374: 1, H0520: 1, H0689: 1, H0682: 1, H0521: 1, S0028: 1, L0742: 1, L0740: 1, L0751: 1, L0749: 1, L0752: 1, S0031: 1, H0445: 1, L0596: 1, L0588: 1, L0593: 1, L0603: 1, H0667: 1 and H0542: 1.	AR055: 8, AR060: 5, AR061: 4, AR089: 4, AR033: 4, AR096: 4, AR039: 3, AR053: 3, AR104: 2, AR052: 2 L0754: 7, H0644: 4, H0031: 2, L0748: 1, L0747: 1 and H0543: 1.			107-139
56	HAPNX53	613777	66	5 - 478	1471	Ala-15 to Glu-26, Lys-33 to Ser-47, Cys-53 to Thr-60, Cys-119 to Trp-127.		AR055: 7, AR061: 6, AR060: 5, AR096: 4, AR033: 4, AR052: 3, AR089: 3, AR053: 3, AR104: 2, AR039: 2 H0575: 4, H0271: 3, H0250: 1 and L0599: 1.			61-97
57	HOFAE02	614169	67	129 - 434	1472	Thr-10 to Ala-20, Asp-82 to Asn-102.		AR033: 7, AR060: 4, AR096: 3, AR089: 3, AR053: 3, AR061: 3, AR052: 2, AR055: 1,			21-42, 44-66

58	HSLIQ83	614801	68	16 - 525	1473		AR104: 1, AR039: 0 S0136: 7, S0356: 2, S0410: 2, H0486: 2, H0672: 2, H0170: 1, H0657: 1, H0692: 1, H0254: 1, H0402: 1, H0305: 1, S0358: 1, H0619: 1, L0717: 1, H0406: 1, H0415: 1, H0599: 1, S0010: 1, T0115: 1, H0545: 1, S0051: 1, H0617: 1, H0264: 1, H0100: 1, L0659: 1, L0789: 1, L0665: 1, H0519: 1, H0414: 1, S0406: 1, H0422: 1 and H0352: 1.	AR055: 5, AR033: 5, AR060: 4, AR104: 4, AR053: 4, AR089: 3, AR052: 3, AR061: 3, AR096: 2, AR039: 1 L0439: 6, L0438: 3, L0809: 2, L0748: 2, H0583: 1, S0001: 1, T0010: 1, L0456: 1, H0598: 1, L0761: 1, L0783: 1, S0028: 1, L0749: 1, L0756: 1, S0458: 1 and H0352: 1.	143-159
59	HNTMD04	615231	69	234 - 593	1474	Ser-19 to Val-24, Pro-35 to Asn-42, Pro-44 to Gly-59,		AR039: 6, AR053: 4, AR052: 3, AR033: 3, AR096: 3, AR055: 3,	78-96

No.	Clone ID				AA SEQ ID	Description	Codon Data	Residues
						Gly-96 to Gly-101.	AR089: 3, AR060: 2, AR061: 2, AR104: 2 L0755: 3, H0521: 2, L0754: 2, L0747: 2, S0003: 1, L0369: 1, L0667: 1, L0659: 1, L0647: 1, L0790: 1, L0663: 1, L0664: 1, H0520: 1, H0518: 1, S0152: 1, S0404: 1, H0436: 1, L0748: 1 and H0423: 1.	92-111, 45-61
60	HRABY48	616154	70	47 - 379	1475	Thr-17 to Ser-28, Ser-39 to Gly-45.	AR104: 20, AR096: 11, AR089: 8, AR033: 7, AR052: 5, AR060: 5, AR053: 5, AR039: 4, AR055: 2, AR061: 1 H0599: 1, H0555: 1 and S0390: 1.	60-76
61	HDDAA17	616652	71	345 - 680	1476	Arg-5 to Glu-10.	AR055: 12, AR089: 8, AR033: 8, AR061: 7, AR060: 7, AR053: 5, AR052: 5, AR096: 4, AR039: 1, AR104: 0 L0758: 2, H0339: 1, L0664: 1 and L0731: 1.	
62	HTRAC41	618715	72	110 - 748	1477	Glu-121 to Asp-128.	AR096: 1, AR104: 1, AR052: 0, AR039: 0, AR055: 0, AR033: 0, AR061: 0, AR060: 0, AR053: 0	48-81, 126-156, 89-115, 21-38, 1-17, 180-

							S0001: 2, H0730: 2, L0581: 2, H0713: 1, H0735: 1, I10164: 1 and S0028: 1.	196, 161-177
63	HOSCV06	619875	73	57 - 407	1478	Val-45 to Glu-52, Ala-82 to Ala-93, Pro-103 to Asp-108.	AR039: 25, AR055: 11, AR033: 10, AR053: 10, AR096: 9, AR060: 9, AR052: 9, AR089: 9, AR104: 8, AR061: 6 S0003: 1, L0498: 1 and L0599: 1.	52-68, 26-42
64	HMCHS27	620219	74	1 - 519	1479	Arg-78 to Glu-84, Leu-94 to Trp-102, Lys-113 to Thr-118.	AR055: 10, AR052: 9, AR053: 8, AR033: 7, AR089: 6, AR060: 6, AR096: 4, AR061: 4, AR104: 1, AR039: 0 H0441: 1, H0409: 1 and S0344: 1.	46-64, 130-146
65	HEMFC09	625334	75	221 - 670	1480		AR060: 2, AR039: 1, AR053: 1, AR104: 1, AR033: 1, AR096: 1, AR089: 1, AR061: 1, AR055: 0, AR052: 0 L0755: 3, S0003: 2, H0521: 2, S0470: 1, S0354: 1, S0444: 1, S0360: 1, S0046: 1, H0574: 1, S0010: 1, H0046: 1, L0471: 1, H0051: 1, H0553: 1, H0646: 1, S0210: 1, H0529: 1,	81-99, 34-50

#	ID				SEQ	Description		Range
66	HNTRJ16	625432	76	25 - 798	1481	Glu-90 to Asn-95, Arg-101 to Lys-108.	L0662: 1, H0659: 1, H0658: 1, H0539: 1, H0436: 1, L0758: 1, L0599: 1, S0192: 1, S0276: 1 and H0423: 1. AR053: 3, AR052: 3, AR096: 2, AR033: 2, AR055: 2, AR089: 2, AR060: 1, AR061: 1, AR104: 1, AR039: 0 L0748: 4, L0749: 3, H0529: 2, L0439: 2, H0624: 1, T0002: 1, H0295: 1, H0638: 1, H0619: 1, H0013: 1, H0581: 1, H0263: 1, H0457: 1, H0688: 1, H0644: 1, H0090: 1, H0551: 1, T0067: 1, H0561: 1, H0538: 1, L0500: 1, L0646: 1, L0794: 1, L0803: 1, L0790: 1, L0666: 1, L0664: 1, H0547: 1, H0690: 1, H0435: 1, H0696: 1, S0044: 1, L0779: 1, L0752: 1, L0596: 1, L0485: 1, L0593: 1 and S0384: 1.	57-73
67	HKAEJ09	625517	77	272 - 571	1482	Ala-25 to Phe-44.	AR096: 2, AR055: 2, AR089: 1, AR104: 1, AR061: 0, AR033: 0, AR060: 0, AR052: 0.	79-95

No.	Clone	ID	SEQ ID	Residues	SEQ ID	Description	Features	Ranges
							AR039: 0, AR053: 0 H0083: 1, H0494: 1, L0776: 1, L0744: 1 and L0777: 1.	
68	HKMMS65	625566	78	22 - 414	1483	Tyr-49 to Arg-55.	AR033: 7, AR089: 5, AR060: 4, AR039: 3, AR055: 3, AR053: 3, AR061: 3, AR052: 3, AR096: 2, AR104: 1 H0265: 2, H0431: 2, H0486: 2, H0004: 2, H0624: 1, H0716: 1, H0657: 1, S0222: 1, H0083: 1, S0214: 1, H0628: 1, L0809: 1, H0547: 1, L0748: 1, L0439: 1, L0749: 1, L0485: 1 and H0543: 1.	56-72, 18-34
69	HNHGE09	625622	79	92 - 517	1484	Pro-13 to His-18, Pro-20 to Lys-27, Ala-29 to Pro-47, Lys-69 to Arg-75, Ser-77 to Ser-85.	AR096: 2, AR089: 1, AR039: 1, AR033: 1, AR061: 1, AR104: 0, AR060: 0, AR052: 0, AR055: 0 S0053: 2	46-64
70	HTTCT34	626178	80	44 - 361	1485	Phe-42 to Tyr-50.	AR055: 6, AR061: 3, AR060: 3, AR033: 3, AR096: 3, AR053: 2, AR089: 2, AR039: 2, AR104: 1 H0040: 3	50-70, 20-42

71	HBIAS14	637714	81	751 - 1185	1486	Arg-133 to Lys-145.	AR033: 164, AR055: 129, AR061: 128, AR060: 117, AR089: 90, AR039: 62, AR052: 41, AR104: 40, AR053: 30, AR096: 23 L0805: 9, S0010: 2, S6024: 1, S0134: 1, H0733: 1, S0132: 1, H0592: 1, T0048: 1, S0474: 1, S0049: 1, H0196: 1, H0052: 1, H0673: 1, S0450: 1, L0776: 1, L0809: 1, H0723: 1, S3012: 1, S3014: 1, L0743: 1, L0744: 1, L0748: 1, L0758: 1 and L0599: 1.	7-27, 114-130, 88-104, 31-47, 61-77
72	HLHSC60	638175	82	354 - 722	1487		AR096: 35, AR089: 31, AR104: 25, AR060: 17, AR033: 16, AR052: 15, AR039: 14, AR053: 13, AR055: 10, AR061: 6 H0556: 3, H0208: 3, H0050: 3, L0471: 3, H0179: 3, H0644: 3, S0344: 3, H0521: 3, L0439: 3, S0420: 2, S0360: 2, H0619: 2, H0599: 2, H0264: 2, H0280: 2, S0210: 2, H0547: 2, H0658: 2, L0750: 2, L0731: 2, L0588: 2, L0604: 2, H0543: 2, H0265: 1, T0002:	86-105, 12-29, 55-71

| 73 | H6ESA95 | 638229 | 83 | 427 - 894 | 1488 | Gln-7 to Arg-12, Pro-69 to Glu-76. | 1, H0140: 1, S0114: 1, H0341: 1, S0001: 1, H0669: 1, H0662: 1, H0306: 1, S0418: 1, S0408: 1, H0580: 1, L0717: 1, H0549: 1, H0453: 1, H0592: 1, H0497: 1, H0632: 1, T0039: 1, T0112: 1, H0575: 1, H0036: 1, H0309: 1, H0544: 1, H0172: 1, H0123: 1, H0620: 1, H0024: 1, H0051: 1, H0188: 1, H0615: 1, H0604: 1, H0031: 1, L0456: 1, H0124: 1, H0376: 1, S0036: 1, H0059: 1, H0100: 1, T0041: 1, T0042: 1, S0440: 1, S0150: 1, H0646: 1, H0538: 1, L0637: 1, L0551: 1, L0803: 1, L0659: 1, L0789: 1, L0663: 1, L0438: 1, H0520: 1, H0519: 1, S0126: 1, H0689: 1, H0651: 1, H0539: 1, S0152: 1, S0028: 1, L0748: 1, L0777: 1, L0753: 1, H0343: 1, L0591: 1, L0592: 1, L0593: 1, H0423: 1, H0422: 1, H0506: 1 and H0008: 1. | AR055: 17, AR033: 17, AR052: 13, AR061: 13, | 136-153, 18-34 |

Leu-119 to Trp-125.
AR053: 11, AR060: 11, AR089: 10, AR104: 6, AR039: 5, AR096: 4 H0556: 7, S0126: 4, S0360: 3, H0618: 3, H0551: 3, S0132: 2, H0559: 2, H0545: 2, H0622: 2, H0617: 2, H0413: 2, L0382: 2, L0665: 2, L0438: 2, H0670: 2, S3014: 2, L0605: 2, L0591: 2, H0224: 1, H0225: 1, S0114: 1, H0657: 1, H0656: 1, H0341: 1, H0306: 1, H0638: 1, S0418: 1, S0442: 1, S0354: 1, S0046: 1, H0392: 1, H0592: 1, H0587: 1, H0257: 1, H0491: 1, H0013: 1, H0635: 1, H0575: 1, H0253: 1, H0318: 1, H0569: 1, H0123: 1, H0083: 1, H0135: 1, H0038: 1, H0040: 1, H0087: 1, S0440: 1, H0646: 1, L0369: 1, L0769: 1, L0772: 1, L0646: 1, L0642: 1, L0764: 1, L0773: 1, L0363: 1, L0768: 1, L0794: 1, L0766: 1, L0803: 1, L0806: 1, L0653: 1, L0659: 1, L0809: 1, L0663: 1, L0664: 1,

74	HKMAA36	638339	84	169 - 888	1489	Lys-126 to Phe-135, Asn-153 to Ala-168, Thr-185 to Val-196.	AR104: 504, AR061: 378, AR060: 336, AR055: 296, AR033: 203, AR039: 173, AR089: 171, AR052: 122, AR053: 103, AR096: 94 S0358: 11, H0494: 9, S0354: 7, S0442: 6, H0593: 6, S0444: 5, S0408: 3, H0370: 3, H0039: 3, S0434: 3, H0616: 2, H0059: 2, L0518: 2, S0374: 2, H0435: 2, H0696: 2, L0596: 2, H0484: 1, S0376: 1, S0360: 1, H0042: 1, H0292: 1, H0328: 1, H0673: 1, S0015: 1, S0440: 1, H0647: 1, L0809: 1, H0689: 1, H0672: 1, S0044: 1, S0406: 1, L0601: 1, H0506: 1 and L0600: 1.	H0691: 1, H0435: 1, H0436: 1, H0478: 1, L0750: 1, L0731: 1, L0757: 1, H0445: 1, L0601: 1, H0653: 1, H0543: 1 and S0424: 1.	78-112, 1-36, 49-77, 213-232, 105-121, 29-45
75	HLTFA02	638553	85	259 - 996	1490	Lys-5 to Thr-16, Thr-23 to His-28, Gly-111 to Leu-121, Pro-128 to Ile-137.	AR039: 2, AR052: 1, AR033: 1, AR055: 1, AR089: 1, AR104: 1, AR096: 1, AR061: 1		191-207, 139-155

76	HISBE12	645267	86	48 - 1193	1491	Leu-50 to Lys-58, Lys-64 to Leu-71, His-89 to Thr-94, Pro-102 to Trp-110, Tyr-162 to Cys-169, Asp-367 to Ala-377.	AR060: 6, AR096: 5, AR089: 5, AR052: 5, AR053: 3, AR033: 3, AR055: 1, AR061: 1, AR104: 1, AR039: 0 H0539: 8, H0046: 3,	180-210, 257-282, 326-349, 116-134, 308-325, 12-28

AR060: 1, AR053: 0
L0747: 6, L0766: 4,
L0749: 4, L0362: 4, H0046:
3, L0666: 3, S0126: 3,
S0132: 2, H0013: 2, L0758:
2, L0596: 2, H0624: 1,
H0341: 1, S0001: 1, S0360:
1, S0408: 1, S0278: 1,
H0370: 1, T0114: 1, H0083:
1, H0553: 1, H0606: 1,
H0090: 1, H0038: 1, H0616:
1, H0269: 1, H0059: 1,
H0561: 1, H0641: 1, S0142:
1, L0520: 1, L0641: 1,
L0764: 1, L0805: 1, L0526:
1, L0664: 1, H0702: 1,
H0659: 1, H0658: 1, H0660:
1, H0666: 1, S0330: 1,
H0539: 1, H0696: 1, S0406:
1, S3014: 1, S0027: 1,
L0777: 1, L0755: 1, L0731:
1, L0759: 1, L0589: 1,
H0136: 1, H0422: 1 and
S0452: 1.

No.	ID								
77	HEBAE43	645268	87	62 - 520	1492	Glu-9 to Arg-15, Pro-71 to Lys-79.	H0039: 2, H0553: 2, H0090: 2, L0750: 2, L0605: 2, S0282: 1, H0431: 1, H0036: 1, H0421: 1, H0196: 1, T0003: 1, S6028: 1. H0252: 1, H0031: 1, H0111: 1, H0591: 1, H0412: 1, T0068: 1, S0044: 1, L0752: 1, H0445: 1 and L0581: 1.		19-51, 100-116, 120-136, 41-57
78	HSBBC07	655007	88	158 - 646	1493	Met-1 to Val-12.	AR104: 44, AR033: 31, AR061: 18, AR060: 15, AR055: 14, AR039: 12, AR089: 12, AR096: 10, AR053: 9, AR052: 6 S0007: 3, H0038: 2, S0344: 2, L0750: 2, T0002: 1, H0125: 1, S0420: 1, S0358: 1, S0046: 1, H0411: 1, S0278: 1, H0085: 1, H0545: 1, I0031: 1, H0182: 1, H0646: 1, H0134: 1, S0031: 1, L0591: 1, H0423: 1 and H0422: 1.	AR053: 51, AR052: 50, AR089: 25, AR055: 25, AR033: 17, AR061: 14, AR060: 12, AR096: 12, AR104: 1, AR039: 0	117-133

79	HL2AE73	655590	89	18 - 329	1494	Pro-16 to Lys-21.	AR055: 10, AR060: 9, AR096: 8, AR053: 8, AR039: 8, AR089: 7, AR104: 7, AR061: 6, AR052: 5, AR033: 5 H0131: 2, S0002: 2, H0664: 1, H0586: 1, H0574: 1, H0563: 1, H0028: 1 and S0428: 1.	78-95, 1-17, 52-68
80	HE2OO57	656211	90	344 - 18	1495	Val-7 to Met-23, Leu-41 to Lys-46.	AR052: 30, AR053: 25, AR096: 23, AR055: 18, AR089: 16, AR060: 12, AR033: 10, AR061: 8, AR104: 6, AR039: 5 L0756: 2, H0170: 1, H0441: 1, S0051: 1, T0010: 1, H0436: 1 and L0779: 1.	89-107
81	HEEAR13	656288	91	51 - 395	1496	Asp-14 to Leu-22.	AR055: 44, AR039: 39, AR053: 24, AR033: 20, AR052: 18, AR089: 17, AR104: 16, AR096: 14, AR060: 13, AR061: 12 L0748: 5, L0157: 3, L0777: 2, H0549: 1, H0617: 1, L0638: 1, L0774: 1, L0775: 1, H0144: 1 and L0755: 1.	23-68, 23-41
82	HFIYL13	656815	92	228 - 722	1497	Gln-18 to Tyr-24, Gln-94 to Glu-100.	AR039: 8, AR033: 5, AR053: 5, AR096: 4,	131-151, 64-80, 34-

| 83 | HLWBH14 | 658066 | 93 | 102 - 542 | 1498 | AR039: 34, AR053: 20, AR096: 17, AR033: 16, AR052: 16, AR104: 15, AR089: 14, AR055: 11, AR060: 11, AR061: 8 L0754: 9, L0780: 3, L0755: 3, L0591: 3, S0196: 3, H0255: 2, H0306: 2, H0041: 2, H0553: 2, H0674: 2, H0521: 2, L0748: 2, L0779: 2, L0752: 2, L0753: 2, H0445: 2, L0589: 2, S0298: 1, H0346: 1, S0360: 1, S0408: 1, H0549: 1, H0550: 1, H0485: 1, H0428: 1, H0628: 1, H0551: 1, S0142: 1, L0369: 1, L0769: 1, L0761: 1, L0800: 1, | 46-62 |
| | | | | | | AR052: 4, AR104: 4, AR089: 4, AR055: 3, AR060: 3, AR061: 3 L0766: 3, H0413: 2, L0794: 2, H0659: 2, H0591: 1, T0042: 1, H0494: 1, L0769: 1, L0667: 1, L0800: 1, L0662: 1, L0666: 1, H0658: 1, L0748: 1, L0755: 1, L0731: 1, L0758: 1, I10444: 1, S0242: 1 and H0542: 1. | 50 |

84	HATDW51	659283	94	579 - 878	1499		L0803: 1, L0782: 1, L0791: 1, L0532: 1, L0777: 1, H0444: 1, L0596: 1, S0026: 1 and H0653: 1. AR033: 7, AR053: 4, AR055: 4, AR052: 3, AR096: 3, AR089: 3, AR060: 3, AR061: 2, AR039: 2, AR104: 1 L0766: 4, L0758: 4, L0646: 2, L0805: 2, H0670: 2, L0745: 2, L0756: 2, L0759: 2, H0351: 1, H0156: 1, H0328: 1, H0652: 1, L0520: 1, L0771: 1, L0648: 1, L0794: 1, L0774: 1, L0438: 1, L0439: 1, L0740: 1, L0747: 1 and S0412: 1.	52-74, 34-50, 75-91
85	HDPWQ69	659380	95	22 - 444	1500	Phe-68 to Ser-77, Lys-79 to Thr-90, Cys-107 to Leu-114, Pro-116 to Trp-121, Pro-124 to Asn-133.	AR052: 29, AR053: 25, AR096: 23, AR089: 12, AR055: 8, AR033: 6, AR061: 4, AR060: 4, AR104: 0, AR039: 0 L0805: 25, L0157: 7, L0776: 7, S0474: 5, L0731: 5, H0457: 4, L0748: 4, L0747: 4, S0278: 3, H0538: 3, S0404: 3, S0476: 2, H0619: 2, H0009: 2, H0529:	47-64

86	HNTBM67	659801	96	231 - 1058	1501		252-268, 133-149, 106-122
					Pro-8 to Ala-14, Glu-68 to Gln-75, Gln-80 to Glu-85,	2, L0662: 2, L0803: 2, L0774: 2, L0439: 2, L0751: 2, H0170: 1, H0713: 1, H0716: 1, H0295: 1, H0341: 1, S0001: 1, H0663: 1, H0306: 1, H0402: 1, S0418: 1, L0005: 1, S0358: 1, S6016: 1, S0222: 1, H0587: 1, T0060: 1, H0427: 1, H0575: 1, T0048: 1, H0085: 1, H0178: 1, H0620: 1, S0388: 1, H0628: 1, H0674: 1, S0036: 1, H0488: 1, H0412: 1, S0038: 1, H0561: 1, H0646: 1, S0426: 1, L0598: 1, L0770: 1, L0769: 1, L0638: 1, L0639: 1, L0761: 1, L0667: 1, L0648: 1, L0794: 1, L0804: 1, L0775: 1, L0655: 1, L0809: 1, L0791: 1, L0663: 1, H0520: 1, H0689: 1, H0670: 1, S0380: 1, H0521: 1, H0522: 1, S0027: 1, L0754: 1, L0779: 1, L0777: 1, L0758: 1, S0194: 1, H0423: 1 and H0352: 1. AR053: 1, AR055: 1, AR060: 1, AR033: 1, AR096: 0, AR061: 0.	

Ala-170 to Leu-178.	AR089: 0, AR052: 0, AR039: 0 S0222: 8, L0662: 8, L0005: 7, L0665: 7, L0659: 6, L0666: 6, H0547: 6, L0740: 6, S6028: 4, L0483: 4, L0438: 4, L0754: 4, L0756: 4, L0779: 4, S0194: 4, S0049: 3, S0388: 3, L0646: 3, L0521: 3, L0663: 3, L0664: 3, H0435: 3, H0696: 3, L0439: 3, L0777: 3, H0624: 2, H0171: 2, S0356: 2, S0442: 2, S0354: 2, S0360: 2, S0408: 2, H0046: 2, H0563: 2, L0471: 2, S0051: 2, H0266: 2, H0040: 2, H0623: 2, S0440: 2, L0598: 2, L0520: 2, L0641: 2, L0771: 2, L0768: 2, L0774: 2, L0805: 2, L0776: 2, L0518: 2, L0565: 2, H0519: 2, H0670: 2, H0660: 2, H0648: 2, H0672: 2, S0028: 2, L0751: 2, L0731: 2, L0758: 2, S0031: 2, L0596: 2, L0595: 2, S0026: 2, S0196: 2, H0170: 1, H0686: 1, H0685: 1, H0717: 1, H0381: 1, S0212:

87	HAIDY03	660532	97	37 - 537	1502	Met-1 to Lys-7,		58-75
						Met-1 to Lys-7,	1, H0662: 1, S0418: 1, S0376: 1, S0045: 1, S0046: 1, H0411: 1, H0369: 1, H0550: 1, H0438: 1, H0602: 1, T0040: 1, H0013: 1, H0427: 1, S0280: 1, H0590: 1, H0390: 1, S0474: 1, H0052: 1, T0110: 1, H0545: 1, H0178: 1, H0562: 1, H0123: 1, H0373: 1, H0201: 1, H0355: 1, S0003: 1, H0615: 1, H0428: 1, T0006: 1, H0031: 1, H0553: 1, H0032: 1, S0036: 1, H0163: 1, H0551: 1, L0564: 1, L0370: 1, S0370: 1, S0450: 1, L0769: 1, L0637: 1, L5565: 1, L0372: 1, L0773: 1, L0650: 1, L0806: 1, L0527: 1, L0526: 1, L0783: 1, L0809: 1, S0374: 1, H0520: 1, H0682: 1, H0659: 1, S0328: 1, S0330: 1, H0539: 1, S0380: 1, L0602: 1, S0152: 1, H0555: 1, L0753: 1, L0755: 1. L0759: 1, S0260: 1, S0434: 1, S0436: 1, L0366: 1, H0667: 1 and S0242: 1. AR055: 31, AR060: 21,	

88	HDPDO12	661436	98	376 - 35	1503			44-72, 69-
					Thr-107 to Asn-114.	AR033: 20, AR061: 15, AR089: 13, AR053: 12, AR052: 11, AR104: 7, AR096: 6, AR039: 4 L0766: 5, L0803: 3, L0748: 3, L0740: 3, L0758: 3, S0408: 2, H0032: 2, H0124: 2, L0771: 2, L0809: 2, L0665: 2, S0330: 2, L0750: 2, L0756: 2, L0731: 2, L0759: 2, H0254: 1, H0638: 1, S0420: 1, S0358: 1, S0132: 1, H0013: 1, S0010: 1, H0563: 1, H0510: 1, H0416: 1, H0687: 1, S0003: 1, H0328: 1, H0591: 1, H0413: 1, H0207: 1, H0538: 1, S0422: 1, S0426: 1, L0763: 1, L0769: 1, L0796: 1, L0667: 1, L0643: 1, L0648: 1, L0794: 1, L0805: 1, L0776: 1, L0655: 1, L0783: 1, L0367: 1, L0664: 1, H0144: 1, H0519: 1, H0690: 1, H0658: 1, H0672: 1, H0518: 1, H0696: 1, S0044: 1, L0439: 1, L0747: 1, L0752: 1, S0192: 1 and H0422: 1.	Pro-9 to Ser-19, Pro-30 to Ser-38, Arg-89 to Glu-95, Leu-105 to Trp-113, Lys-124 to Thr-129.	AR096: 3, AR053: 3,

							AR033: 2, AR060: 2, AR089: 1, AR052: 1, AR055: 1, AR104: 1, AR061: 0, AR039: 0, H0693: 8, L0755: 2, L0731: 2, H0341: 1, S0222: 1, L0769: 1, L0800: 1, L0665: 1, S0216: 1 and H0521: 1.	85, 13-29
89	HAGBC45	661694	99	51 - 860	1504	Pro-29 to Lys-34, Ser-91 to Thr-97.	AR055: 6, AR033: 4, AR096: 3, AR052: 3, AR061: 3, AR089: 3, AR060: 3, AR053: 3, AR039: 2, AR104: 0 L0777: 7, L0750: 6, L0748: 5, L0779: 4, L0805: 2, L0517: 2, L0439: 2, L0740: 2, L0747: 2, L0759: 2, H0580: 1, S0010: 1, T0003: 1, H0622: 1, S0036: 1, L0764: 1, L0803: 1, H0144: 1, S3014: 1, L0749: 1 and L0758: 1.	179-199
90	HNTNT65	662513	100	85 - 480	1505	Val-4 to Thr-11, Ile-15 to Asn-20, Arg-35 to Lys-44.	AR089: 3, AR053: 3, AR052: 2, AR096: 2, AR104: 2, AR039: 2, AR055: 2, AR033: 2, AR060: 1, AR061: 1 H0651: 8, L0744: 7,	50-70

L0748: 6, H0620: 4, S0360: 3, S0142: 3, L0755: 3,
H0638: 2, H0052: 2, H0123: 2, H0083: 2, H0328: 2,
H0615: 2, H0039: 2, H0424: 2, H0163: 2, H0040: 2,
H0059: 2, L0659: 2, L0519: 2, L0438: 2, S0378: 2,
S3012: 2, S3014: 2, L0743: 2, L0750: 2, L0758: 2,
L0589: 2, H0656: 1, H0662: 1, S0420: 1, S0358: 1,
S0408: 1, H0637: 1, S0222: 1, H0574: 1, S0280: 1,
L0021: 1, H0544: 1, H0546: 1, I10545: 1, H0081: 1,
H0012: 1, H0266: 1, H0188: 1, H0687: 1, H0288: 1,
H0292: 1, H0252: 1, H0673: 1, S0036: 1, H0100: 1,
H0641: 1, S0144: 1, S0002: 1, L0761: 1, L0643: 1,
L0662: 1, L0650: 1, L0774: 1, L0375: 1, L0805: 1,
L0776: 1, L0783: 1, L0793: 1, L0665: 1, S0053: 1,
H0520: 1, H0658: 1, H0672: 1, H0522: 1, S0406: 1,
H0436: 1, S0037: 1, L0747: 1, L0749: 1, L0779: 1,

91	HTTAA50	665234	101	825 - 1148	1506	Asn-87 to Asn-92.	L0731: 1, S0031: 1, S0434: 1 and L0366: 1. AR096: 6, AR052: 4, AR060: 4, AR055: 4, AR033: 4, AR039: 4, AR104: 3, AR089: 3, AR053: 3, AR061: 3 L0766: 4, L0748: 4, L0747: 4, L0752: 3, L0759: 3, S0212: 1, S0356: 1, H0574: 1, L0105: 1, H0188: 1, H0040: 1, L0772: 1, L0774: 1, S0328: 1, L0749: 1, L0755: 1, L0596: 1 and H0667: 1.	6q22.1-22.3	120110, 121014, 142470, 156225, 164200, 164200, 601316, 601410, 601757	8-35, 38-56, 59-75
92	HAGBX32	666416	102	102 - 512	1507	Pro-27 to Ala-37.	AR033: 8, AR053: 5, AR052: 5, AR089: 5, AR060: 4, AR096: 4, AR055: 3, AR104: 3, AR061: 3, AR039: 1 L0439: 4, L0418: 1, S0010: 1, L0455: 1. S0028: 1 and L0741: 1.	16p12-p13.1	108730, 147781, 172471, 186580, 264800, 266600, 278760, 600760, 600760, 600761, 600761, 602066	45-69, 76-101, 115-131
93	HHTMM1 8	666429	103	112 - 543	1508	Glu-98 to Gln-106.	AR089: 28, AR039: 26, AR096: 25, AR052: 16,			41-57

| 94 | HHFGR08 | 104 | 296 - 625 | 1509 | Ser-14 to Arg-20, Pro-92 to Ala-97, Glu-104 to His-110. | AR053: 14, AR060: 14, AR033: 12, AR104: 12, AR061: 3, AR055: 3, S0220: 1 | AR052: 3, AR053: 3, AR033: 2, AR055: 2, AR104: 1, AR096: 1, AR061: 1, AR060: 1, AR089: 1, AR039: 0 S0422: 7, L0748: 6, L0664: 4, H0581: 3, L0665: 3, H0038: 2, H0659: 2, L0743: 2, L0751: 2, S0434: 2, L0596: 2, L0592: 2, L0411: 1, H0556: 1, H0222: 1, H0656: 1, S0116: 1, S0358: 1, S0376: 1, S0444: 1, S0360: 1, S0132: 1, S0476: 1, H0497: 1, H0013: 1, H0050: 1, H0375: 1, H0622: 1, H0591: 1, H0040: 1, S0142: 1, S0002: 1, L0643: 1, L0662: 1, L0794: 1, L0766: 1, L0791: 1, H0547: 1, H0519: 1, H0518: 1, H0521: 1, L0749: 1, L0777: 1 and H0422: 1. | 48-64 |
| 95 | HHHBEU19 | 105 | 26 - 469 | 1510 | Ala-62 to Glu-74. | AR096: 1, AR060: 0, AR033: 0, AR061: 0, | | 123-139 |

No.	Clone ID				SEQ ID NO	Region(s)	Data A	Data B	Positions
96	HWBBB21	670586	106	34 - 627	1511	Tyr-35 to Gln-42, Asp-141 to Gly-160.	AR055: 0, AR089: 0, AR053: 0, AR104: 0, AR052: 0, AR039: 0 H0036: 1, L0471: 1, H0373: 1, L0804: 1 and H0665: 1.	AR096: 7, AR053: 5, AR039: 5, AR060: 3, AR052: 3, AR104: 3, AR089: 3, AR033: 2, AR061: 1, AR055: 0 H0580: 1, T0042: 1, S0002: 1 and L0439: 1.	59-75, 1-17, 104-120, 169-185
97	ILAIDX85	672653	107	246 - 1880	1512	Arg-54 to Trp-62, Pro-68 to Ile-77, Asn-124 to Ala-130, Arg-155 to Lys-161, Ser-166 to Glu-178, Ile-407 to Ser-413, Pro-494 to Met-507, Pro-510 to Asp-516.	AR033: 8, AR055: 7, AR060: 6, AR089: 4, AR052: 4, AR061: 3, AR096: 3, AR053: 2, AR104: 1, AR039: 1 H0038: 4, H0124: 2, H0561: 2, H0539: 2, S0276: 2, H0294: 1, S0212: 1, S0132: 1, H0431: 1, S0005: 1, H0544: 1, H0123: 1, H0266: 1, H0288: 1, H0039: 1, H0040: 1, H0547: 1, H0519: 1, S0044: 1, H0555: 1 and S0242: 1.		370-406, 10-38, 430-456, 262-279, 338-354, 303-320, 232-250, 476-492, 105-121, 180-196
98	HMMAV06	675380	108	10 - 618	1513		AR096: 4, AR089: 2, AR053: 2, AR052: 2.		54-71

99	HISAM25	677920	109	291 - 680	1514	Ile-52 to Ser-59, Arg-106 to Asn-111, Gln-122 to Lys-130.	AR033: 2, AR055: 2, AR060: 2, AR061: 1, AR039: 1, AR104: 1 L0766: 3, H0413: 2, L0794: 2, H0659: 2, H0581: 1, S0314: 1, H0591: 1, T0042: 1, H0494: 1, L0769: 1, L0667: 1, L0800: 1, L0662: 1, L0666: 1, H0414: 1, H0658: 1, L0748: 1, L0755: 1, L0731: 1, L0758: 1, H0444: 1, S0242: 1 and H0542: 1.
							79-104
100	HRODX93	678316	110	408 - 725	1515	Pro-13 to Arg-23.	AR033: 3, AR104: 2, AR096: 2, AR053: 2, AR039: 2, AR089: 1, AR052: 1, AR060: 1, AR061: 1, AR055: 0 L0769: 3, L0747: 3, L0759: 3, L0783: 2, L0438: 2, H0539: 2, L0439: 2, L0758: 2, L0589: 2, L0717: 1, L0598: 1, L0520: 1, L0794: 1, L0375: 1, H0144: 1 and L0779: 1. AR053: 52, AR052: 44, AR055: 40, AR104: 28, AR033: 28, AR089: 27, AR060: 23, AR061: 22,
							59-75, 84-100, 23-39

101	HLJDK82	678819	111	238 - 1713	1516			137-155, 1-19
						Asp-23 to Glu-28, Ser-49 to Pro-54, Glu-61 to Thr-67, Glu-72 to Asp-81, Glu-83 to Asp-118, Gly-156 to Arg-162, Asp-184 to Tyr-205, Met-251 to Asp-257, Gln-273 to Asp-278, Ser-284 to Tyr-293, Phe-333 to Ser-338, Lys-351 to Arg-357, Gly-367 to Asp-375, Asn-399 to Glu-414, Gln-424 to Arg-443, Glu-447 to Glu-457, Arg-462 to Lys-476, Lys-485 to Phe-492.	AR096: 22, AR039: 20 H0052: 1 and H0598: 1. AR089: 3, AR033: 2, AR060: 2, AR052: 2, AR053: 1, AR061: 1, AR055: 1, AR096: 0, AR039: 0 L0748: 11, L0749: 9, S0408: 6, S0002: 4, L0776: 4, H0521: 4, L0777: 4, S0436: 4, L0588: 4, H0638: 3, S0358: 3, H0575: 3, L0646: 3, S0126: 3, L0758: 3, L0596: 3, H0543: 3, S0282: 2, S0354: 2, S0444: 2, S0360: 2, S0476: 2, T0110: 2, H0046: 2, S0003: 2, L0483: 2, T0042: 2, S0150: 2, S0422: 2, L0763: 2, L0772: 2, L0766: 2, L0803: 2, L0783: 2, L0665: 2, L0438: 2, H0659: 2, S0152: 2, H0704: 2, L0779: 2, L0731: 2, L0759: 2, S0434: 2, L0591: 2, L0599: 2, H0653: 2, H0685: 1, H0583: 1, H0657: 1, H0656: 1, S0116: 1, S0001: 1, H0483: 1, S0442: 1, S0376: 1, S0468: 1, H0619: 1,	

| 102 | HCFMJ37 | 682668 | 112 | 164 - | 1517 | H0393: 1, S0278: 1, H0549: 1, H0574: 1, H0075: 1, H0599: 1, H0036: 1, H0590: 1, S0010: 1, H0251: 1, T0115: 1, H0530: 1, H0572: 1, L0471: 1, H0014: 1, H0375: 1, H0031: 1, H0553: 1, H0628: 1, L0055: 1, H0169: 1, H0708: 1, H0063: 1, H0488: 1, H0413: 1, H0623: 1, H0100: 1, S0464: 1, S0438: 1, S0440: 1, H0646: 1, L0769: 1, L0637: 1, L0644: 1, L0773: 1, L0662: 1, L0768: 1, L0775: 1, L0805: 1, L0653: 1, L0655: 1, L0659: 1, L0526: 1, L0809: 1, L0790: 1, L0666: 1, L0663: 1, S0374: 1, H0435: 1, H0670: 1, H0672: 1, H0539: 1, S0380: 1, S0013: 1, S0406: 1, H0631: 1, S0432: 1, L0756: 1, L0752: 1, S0031: 1, S0260: 1, L0581: 1, L0608: 1, L0362: 1, S0026: 1, H0667: 1, S0242: 1, S0196: 1, H0542: 1, H0423: 1, H0422: 1 and S0424: 1. AR033: 5, AR089: 4, | | | 73-90, 12- |

103	HMWAPI 7	682949	113	373 - 26	1518	532		28
								87-105, 31-47

Column data:

AR060: 3, AR096: 3,
AR052: 3, AR053: 2,
AR055: 1, AR061: 1,
AR104: 0
H0423: 1

AR055: 15, AR039: 14,
AR089: 12, AR052: 12,
AR033: 11, AR060: 10,
AR053: 9, AR061: 9,
AR104: 8, AR096: 7
H0666: 13, H0620: 7,
L0731: 7, L0747: 6, L0659:
5, L0740: 5, L0750: 5,
L0757: 5, S0360: 4, H0123:
4, S0022: 4, H0135: 4,
L0666: 4, L0665: 4, S0028:
4, L0748: 4, L0777: 4,
L0588: 4, S0420: 3, S0358:
3, H0208: 3, H0545: 3,
H0046: 3, H0284: 3, L0650:
3, L0375: 3, L0382: 3,
H0352: 3, H0592: 2, H0544:
2, H0024: 2, H0266: 2,
H0286: 2, H0252: 2, H0428:
2, H0628: 2, H0551: 2,
H0100: 2, S0210: 2, L0763:
2, L0770: 2, L0774: 2,
L0661: 2, L0518: 2, H0547:
2, H0670: 2, S0037: 2,
L0751: 2, L0752: 2, L0755:

2, L0758: 2, L0601: 2,
S0194: 2, H0170: 1, H0265:
1, H0686: 1, S0040: 1,
H0295: 1, H0341: 1, H0638:
1, S0444: 1, H0580: 1,
H0329: 1, S0468: 1, S0046:
1, S0132: 1, S0476: 1,
H0619: 1, H0645: 1, L0717:
1, S0278: 1, H0550: 1,
H0586: 1, H0333: 1, L0021:
1, H0575: 1, H0253: 1,
H0052: 1, H0150: 1, H0041:
1, H0563: 1, H0081: 1,
H0050: 1, L0163: 1, H0051:
1, H0615: 1, H0688: 1,
H0634: 1, H0334: 1, H0633:
1, I10646: 1, L0772: 1,
L0800: 1, L0643: 1, L0764:
1, L0662: 1, L0767: 1,
L0775: 1, L0651: 1, L0806:
1, L0805: 1, L0776: 1,
L0656: 1, L0783: 1, L0809:
1, L0543: 1, L0789: 1,
L0663: 1, H0682: 1, H0684:
1, H0659: 1, H0660: 1,
H0709: 1, S0152: 1, H0627:
1, L0611: 1, S0027: 1,
L0439: 1, L0745: 1, L0759:
1, L0593: 1, L0361: 1,
L0603: 1, H0668: 1, S0026:

104	HMCFA76	684293	114	34 - 519	1519	Ala-4 to Phe-9, Thr-155 to Asn-162.	1 and H0667: 1. AR055: 25, AR052: 25, AR053: 22, AR033: 18, AR089: 18, AR060: 15, AR096: 15, AR039: 15, AR061: 14, AR104: 14 L0758: 7, L0766:5, L0558: 5, L0750: 5, S0360: 4, S0410: 4, L0747: 4, S0007: 3, S0438: 3, L0763: 3, L0769: 3, L0775: 3, S0380: 3, S0404: 3, L0748: 3, L0754: 3, L0749: 3, L0759: 3, H0423: 3, H0661: 2, S0132: 2, H0441: 2, H0494: 2, L0506: 2, L0761: 2, L0554: 2, L0523: 2, L0776: 2, L0526: 2, L0532: 2, L0665: 2, S0126: 2, S0378: 2, H0522: 2, L0742: 2, L0752: 2, L0731: 2, L0757: 2, S0040: 1, H0717: 1, H0294: 1, S0134: 1, H0657: 1, H0381: 1, H0341: 1, H0483: 1, H0669: 1, H0638: 1, S0358: 1, S0444: 1, S0408: 1, H0208: 1, H0351: 1, S0278: 1, H0392: 1, H0333: 1, L0622: 1, H0486: 1, T0039: 1, L0021:			92-120, 117-133, 30-50, 61-77

| 105 | HTHCM28 | 684309 | 115 | 145 - 1392 | 1520 | Pro-29 to Asn-35, Val-184 to Arg-191, Thr-219 to Thr-225, Ala-273 to Ser-281, | 1, H0575: 1, S0010: 1, H0150: 1, H0086: 1, L0471: 1, H0012: 1, H0083: 1, H0688: 1, H0181: 1, H0617: 1, H0673: 1, S0364: 1, H0068: 1, S0366: 1, H0376: 1, H0163: 1, H0038: 1, H0616: 1, H0063: 1, H0087: 1, H0059: 1, H0280: 1, L0475: 1, H0633: 1, H0646: 1, S0144: 1, S0344: 1, H0529: 1, L0762: 1, L0639: 1, L0662: 1, L0767: 1, L0364: 1, L5574: 1, L0774: 1, L0378: 1, L0527: 1, L0657: 1, L0517: 1, L0540: 1, L0546: 1, L0518: 1, L0783: 1, L0663: 1, S0052: 1, H0689: 1, H0684: 1, H0659: 1, H0670: 1, H0660: 1, H0672: 1, S0037: 1, S3014: 1, S0028: 1, S0032: 1, L0777: 1, L0755: 1, H0444: 1, H0445: 1, H0595: 1, S0434: 1, H0667: 1, H0543: 1 and H0422: 1. AR055: 11, AR052: 10, AR033: 8, AR060: 7, AR061: 7, AR089: 7, AR053: 6, AR096: 5, | 6p21.3 | 106300, 108800, 120290, 120290, | 126-143, 292-308, 90-106, 252-268, |

	164-180
Gly-319 to Glu-327, Gly-339 to Ser-345, Thr-358 to Gly-363, Lys-410 to Phe-416.	120810, 120820, 142857, 142858, 150270, 167250, 170261, 177900, 179450, 201910, 217000, 222100, 233100, 235200, 248611, 256550, 256550, 600202, 600261, 601868, 602280, 602475

AR104: 5, AR039: 4 L0748: 10, H0457: 5, L0758: 4, L0776: 3, L0790: 3, L0665: 3, H0617: 2, L0803: 2, L0655: 2, H0658: 2, L0744: 2, L0747: 2, L0588: 2, L0604: 2, H0265: 1, H0583: 1, S0116: 1, S0212: 1, S0442: 1, S0132: 1, H0351: 1, H0369: 1, H0441: 1, H0013: 1, S0010: 1, H0327: 1, H0046: 1, H0015: 1, H0051: 1, S0051: 1, H0510: 1, L0055: 1, H0361: 1, S0366: 1, H0135: 1, H0090: 1, H0040: 1, H0063: 1, H0477: 1, H0059: 1, H0102: 1, H0649: 1, H0529: 1, L0769: 1, L0372: 1, L0771: 1, L0766: 1, L0375: 1, L0806: 1, L0805: 1, L0657: 1, L0659: 1, L0789: 1, L0666: 1, L0663: 1, L0438: 1, H0593: 1, H0435: 1, H0648: 1, H0651: 1, S0330: 1, S0380: 1, H0436: 1, L0751: 1, L0756: 1, L0731: 1, L0596: 1, L0589: 1, L0592: 1, S0011: 1, S0026: 1, S0276: 1 and

106	HHEDB45	685054	116	180 - 623	1521	Thr-2 to Glu-13, Asn-19 to His-56, His-140 to Pro-148.	H0423: 1. AR039: 6, AR096: 4, AR033: 4, AR053: 4, AR104: 3, AR052: 3, AR089: 3, AR060: 3, AR055: 2, AR061: 2 H0170: 1, H0484: 1, S0360: 1, H0309: 1, H0040: 1, L0611: 1, L0596: 1, H0542: 1 and H0543: 1.	12p12	112410, 113520, 135700, 168470, 186940, 186940, 200990, 602096	70-86
107	HTACX15	685191	117	75 - 965	1522		AR060: 5, AR052: 5, AR089: 4, AR053: 4, AR096: 3, AR055: 3, AR033: 2, AR039: 2, AR061: 2, AR104: 1 L0779: 4, S0360: 3, L0803: 3, L0747: 3, L0758: 3, S0354: 2, H0637: 2, S0422: 2, L0646: 2, L0519: 2, L0665: 2, H0436: 2, L0750: 2, H0657: 1, S0007: 1, S6016: 1, H0415: 1, H0486: 1, H0069: 1, H0427: 1, S0280: 1, H0118: 1, H0014: 1, S0214: 1, H0328: 1, H0615: 1, H0553: 1, H0628: 1, S0440: 1, H0529: 1, L0766: 1, L0650: 1, L0775: 1, L0776: 1, L0655:			47-66, 275-291, 146-162, 99-115

| 108 | HFIZN55 | 685340 | 118 | 324 - 713 | 1523 | 1, L0783: 1, L0809: 1, S0374: 1, H0693: 1, H0658: 1, L0745: 1, L0752: 1, L0731: 1, L0757: 1, L0485: 1 and H0422: 1. | AR089: 2, AR039: 1, AR055: 1, AR096: 1, AR053: 1, AR104: 1, AR060: 0, AR061: 0, AR033: 0, AR052: 0 L0805: 2, L0749: 2, H0024: 1, H0112: 1, L0803: 1, H0660: 1, S0330: 1, L0748: 1, L0747: 1 and S0242: 1. | 89-106 |
| 109 | HCEIU38 | 685495 | 119 | 24 - 1067 | 1524 | Pro-89 to Gly-96, Gly-119 to Leu-125, Thr-135 to Pro-141, Thr-160 to Arg-170, Glu-189 to Glu-196, Asp-229 to Asp-236, Arg-278 to His-286, Asn-337 to Tyr-348. | AR089: 8, AR055: 7, AR039: 6, AR033: 6, AR052: 6, AR060: 6, AR096: 5, AR061: 5, AR053: 5, AR104: 4 L0747: 14, L0439: 11, L0731: 8, L0438: 6, L0769: 5, L0766: 5, L0809: 5, L0749: 5, H0251: 4, H0124: 4, H0052: 3, H0545: 3, L0770: 3, L0804: 3, L0774: 3, L0776: 3, L0659: 3, L0663: 3, H0547: 3, L0748: 3, L0757: 3, L0758: 3, | 301-338, 16-32 |

S0436: 3, H0341: 2, S0476: 2, H0318: 2, H0083: 2, H0591: 2, H0264: 2, L0648: 2, L0803: 2, L0665: 2, L0779: 2, L0595: 2, S0011: 2, H0556: 1, H0717: 1, S0442: 1, S0360: 1, T0008: 1, H0329: 1, S0045: 1, S0278: 1, S0222: 1, H0643: 1, H0156: 1, H0575: 1, H0706: 1, H0390: 1, H0196: 1, H0085: 1, H0041: 1, H0123: 1, H0081: 1, L0471: 1, H0011: 1, H0014: 1, H0373: 1, H0510: 1, H0687: 1, H0288: 1, S0022: 1, H0615: 1, T0023: 1, H0031: 1, S0036: 1, H0038: 1, H0100: 1, T0041: 1, H0560: 1, S0438: 1, S0440: 1, S0344: 1, L0640: 1, L0371: 1, L0796: 1, L0646: 1, L0764: 1, L0773: 1, L0662: 1, L0363: 1, L0364: 1, L0650: 1, L0775: 1, L0784: 1, L0806: 1, L0655: 1, L0606: 1, L0526: 1, L0782: 1, L0783: 1, L4501: 1, L0666: 1, L0664: 1, S0374: 1, S0148: 1, S0126: 1,

| 110 | HNFIL36 | 685604 | 120 | 256 - 735 | 1525 | H0683: 1, H0659: 1, H0658: 1, H0670: 1, S0044: 1, H0187: 1, H0626: 1, S3014: 1, L0740: 1, L0751: 1, L0750: 1, L0786: 1, L0780: 1, L0759: 1, S0260: 1, L0591: 1, L0593: 1 and H0543: 1. | AR089: 0, AR096: 0, AR060: 0, AR061: 0, AR104: 0, AR055: 0, AR052: 0, AR039: 0 L0517: 4, L0769: 3, L0776: 3, L0790: 3, L0743: 2, L0754: 2, H0341: 1, S0442: 1, S0046: 1, S0140: 1, S0132: 1, H0550: 1, H0036: 1, L0031: 1, H0271: 1, H0416: 1, H0428: 1, H0031: 1, L0142: 1, H0617: 1, L0761: 1, L0764: 1, L0805: 1, L0659: 1, H0691: 1, H0519: 1, S0378: 1, H0436: 1, L0748: 1, L0777: 1, L0755: 1, L0758: 1 and L0697: 1. | 103-123, 143-160 |
| 111 | HSKZB03 | 686533 | 121 | 1521 - 1096 | 1526 | Glu-10 to Thr-15, Arg-33 to Glu-38, Leu-54 to Gly-59, | AR096: 4, AR055: 3, AR061: 3, AR060: 3, AR053: 3, AR052: 3, | 62-78, 105-121 |

| 112 | HNTMZ26 | 688935 | 122 | 12 - 416 | 1527 | Gly-86 to Trp-101, Pro-123 to Thr-133. | AR089: 2, AR033: 2, AR104: 2, AR039: 0 S0126: 8, S0420: 6, L0757: 6, S0212: 4, L0777: 4, H0662: 3, L0743: 3, L0608: 3, H0653: 3, H0667: 3, H0546: 2, S0314: 2, H0551: 2, L0564: 2, L0764: 2, L0666: 2, H0660: 2, S0027: 2, L0740: 2, L0754: 2, L0759: 2, L0591: 2, L0595: 2, H0665: 2, S0180: 1, H0661: 1, S0418: 1, S0356: 1, T0007: 1, T0039: 1, T0040: 1, T0114: 1, H0013: 1, L0021: 1, H0599: 1, H0036: 1, H0083: 1, L0669: 1, S0318: 1, S0316: 1, H0284: 1, H0286: 1, S0340: 1, S0250: 1, H0553: 1, S0364: 1, H0413: 1, H0494: 1, S0150: 1, L0763: 1, L0775: 1, L0776: 1, L0657: 1, L0790: 1, H0689: 1, H0690: 1, H0658: 1, S3012: 1, S0037: 1, S3014: 1, S0028: 1, L0780: 1, L0731: 1, H0668: 1, S0194: 1 and S0196: 1. | 102-122 |
| | | | | | | Leu-27 to Ser-41. | AR039: 5, AR089: 3, | |

113	HHENC76	689978	123	68 - 370	1528	Gly-6 to Gly-14.	AR096: 88, AR052: 86, AR053: 68, AR089: 63, AR060: 53, AR104: 44, AR033: 37, AR039: 36, AR061: 15, AR055: 10 S0053: 3, L0752: 3, L0794: 2, S0052: 2, H0660:	36-70, 25-41, 67-83
						AR096: 3, AR052: 3, AR104: 2, AR060: 2, AR053: 1, AR061: 1, AR055: 1, AR033: 1 L0748: 5, H0519: 3, H0486: 2, H0179: 2, H0509: 2, H0521: 2, L0588: 2, L0595: 2, H0624: 1, H0650: 1, H0657: 1, H0656: 1, S0444: 1, H0580: 1, S0046: 1, H0013: 1, H0599: 1, S0474: 1, L0471: 1, H0266: 1, H0188: 1, H0553: 1, S0364: 1, H0038: 1, T0067: 1, H0561: 1, H0633: 1, L0637: 1, H0144: 1, H0520: 1, H0547: 1, H0539: 1, S0378: 1, L0602: 1, S0146: 1, S3014: 1, L0756: 1, L0759: 1, L0480: 1, L0596: 1, L0608: 1, S0026: 1, H0542: 1, H0543: 1 and H0506: 1.		

| 114 | HHSGJ30 | 691490 | 124 | 110 - 427 | 1529 | Ser-25 to Lys-32, Glu-63 to Gly-68. | AR039: 31, AR033: 26, AR104: 25, AR053: 22, AR052: 19, AR055: 19, AR089: 14, AR060: 13, AR096: 11, AR061: 10 L0439: 3, L0438: 2, L0756: 2 and S0388: 1. | 2, S0152: 2, L0595: 2, H0543: 2, H0583: 1, H0346: 1, T0109: 1, L0767: 1, L0768: 1, H0521: 1, L0745: 1 and S0194: 1. | | | 33-61 |
| 115 | HE8EQ09 | 695741 | 125 | 135 - 1184 | 1530 | Gln-153 to Ser-163, Ser-172 to Glu-178, Ala-204 to Asp-210, Ile-222 to Ala-236, Lys-284 to Ser-291, Met-342 to Arg-348. | AR033: 29, AR104: 25, AR060: 22, AR096: 17, AR089: 16, AR052: 13, AR039: 11, AR055: 9, AR053: 8, AR061: 5 L0752: 30, L0754: 17, L0740: 16, H0521: 14, L0439: 14, L0766: 12, S0003: 11, S0214: 11, L0777: 10, S0002: 8, L0776: 8, L0748: 8, L0755: 8, S0360: 7, L0665: 7, L0757: 7, T0067: 6, S0440: 6, L0770: 6, L0666: 6, L0747: 6, L0774: 5, L0751: 5, S0222: 4, H0575: 4, H0622: 4, L0662: 4, L0775: | | X | 300-328, 1-21, 180-196 |

4, H0547: 4, S0126: 4,
S0380: 4, L0750: 4, L0758:
4, S0436: 4, L0362: 4,
H0638: 3, H0580: 3, L0598:
3, S0374: 3, H0710: 3,
H0522: 3, H0555: 3, L0356:
3, L0756: 3, L0731: 3,
L0759: 3, L0594: 3, S0134:
2, S0376: 2, S0046: 2,
H0393: 2, S0278: 2, H0586:
2, H0156: 2, H0581: 2,
H0421: 2, T0110: 2, L0471:
2, S6028: 2, S0022: 2,
H0090: 2, H0591: 2, H0040:
2, H0551: 2, H0412: 2,
H0494: 2, S0422: 2, L0520:
2, L0764: 2, L0768: 2,
L0655: 2, L0659: 2, L0783:
2, L0664: 2, L0438: 2,
H0648: 2, H0672: 2, S0406:
2, S0028: 2, L0780: 2,
L0588: 2, L0599: 2, H0667:
2, S0196: 2, H0624: 1,
H0171: 1, H0265: 1, S0040:
1, H0713: 1, S0114: 1,
L0811: 1, H0341: 1, S0212:
1, S0001: 1, H0661: 1,
H0305: 1, S0418: 1, S0045:
1, S0132: 1, S0476: 1,
H0619: 1, H0415: 1, H0409:

| 116 | HJKSC77 | 698634 | 126 | 26 - 499 | 1531 | Ala-8 to Ser-15, His-36 to Glu-44, | 1, H0438: 1, H0013: 1, S0010: 1, S0665: 1, S0474: 1, H0327: 1, H0046: 1, L0157: 1, S0051: 1, T0010: 1, H0266: 1, H0179: 1, H0615: 1, H0096: 1, H0031: 1, H0553: 1, L0055: 1, H0674: 1, H0163: 1, H0038: 1, H0264: 1, H0413: 1, L0564: 1, H0560: 1, H0359: 1, H0509: 1, S0142: 1, S0344: 1, UNKWN: 1, L0369: 1, L0762: 1, L0371: 1, L0796: 1, L0761: 1, L0373: 1, L0773: 1, L0521: 1, L0794: 1, L0803: 1, L0804: 1, L0784: 1, L0807: 1, L0518: 1, L0647: 1, L5622: 1, L5623: 1, H0144: 1, H0684: 1, H0659: 1, H0658: 1, S0330: 1, S0152: 1, H0696: 1, S0404: 1, S0037: 1, L0746: 1, L0779: 1, S0031: 1, H0707: 1, S0434: 1, L0480: 1, L0608: 1, L0604: 1, S0011: 1, S0192: 1, S0456: 1 and H0506: 1. | AR033: 7, AR052: 6, AR104: 5, AR060: 5, | 139-158, 110-126 |

Arg-65 to Gln-70, Asp-133 to Glu-138.	AR053: 4, AR089: 4, AR039: 4, AR096: 4, AR055: 3, AR061: 2 S0358: 8, L0777: 3, L0779: 6, L0362: 6, L0766: 5, L0752: 5, L0775: 4, L0803: 3, L0759: 3, H0171: 2, H0657: 2, S0222: 2, H0441: 2, L0372: 2, L0784: 2, L0809: 2, L0665: 2, S0126: 2, L0740: 2. L0756: 2, L0755: 2, L0758: 2, H0170: 1, S0418: 1, S0360: 1, H0632: 1, H0036: 1, S0010: 1, S0346: 1, L0471: 1, H0014: 1, H0373: 1, H0266: 1, S0334: 1, H0328: 1, H0316: 1, S0036: 1, H0412: 1, H0202: 1, S0440: 1, S0150: 1, H0646: 1, S0422: 1, L0763: 1, L0638: 1, L0764: 1, L0773: 1, L0662: 1, L0649: 1, L0804: 1, L0774: 1, L0666: 1, H0144: 1, H0691: 1, H0547: 1, H0519: 1, H0690: 1, H0683: 1, H0660: 1, S0136: 1, S0404: 1, S0406: 1, S0028: 1, L0754: 1. L0749: 1, L0750: 1, L0731: 1,

117	HDABD32	699216	127	154 - 471	1532	Met-1 to Lys-6, Glu-52 to Thr-58, His-72 to Ala-77.	L0757: 1, H0445: 1, H0343: 1, S0011: 1, S0026: 1 and H0543: 1. AR052: 4, AR096: 3, AR053: 3, AR089: 2, AR104: 2, AR033: 2, AR060: 2, AR039: 2, AR055: 1, AR061: 1 L0766: 10, L0794: 6, L0439: 6, L0731: 5, L0779: 4, H0622: 2, S0422: 2, L0740: 2, L0756: 2, L0595: 2, H0402: 1, S0420: 1, S0444: 1, H0580: 1, H0208: 1, L0717: 1, S0278: 1, H0261: 1, S0222: 1, H0497: 1, H0574: 1, L0471: 1, H0553: 1, H0641: 1, L0646: 1, L0764: 1, L0773: 1, L0803: 1, L0804: 1, L0526: 1, L0791: 1, L0664: 1, L0665: 1, H0520: 1, H0521: 1, H0522: 1, H0696: 1, H0436: 1, L0777: 1, L0755: 1, L0759: 1, H0595: 1, L0604: 1, H0543: 1 and H0422: 1.	80-96, 33-49
118	HWACC64	702658	128	350 - 694	1533		AR052: 2, AR053: 2, AR039: 1, AR055: 1.	12-34, 98-114

AR060: 1, AR033: 1,
AR089: 1, AR061: 1,
AR096: 0, AR104: 0
H0423: 10, H0445: 7,
H0556: 6, S0134: 5, H0656:
5, H0486: 5, H0657: 4,
H0271: 4, H0134: 4, H0436:
4, H0542: 4, H0543: 4,
H0422: 4, S0218: 3, H0125:
3, S0278: 3, H0581: 3,
H0090: 3, L0761: 3, L0768:
3, H0710: 3, H0518: 3,
H0265: 2, S0114: 2, S0360:
2, H0580: 2, H0250: 2,
H0069: 2, H0004: 2, H0318:
2, S0142: 2, L0766: 2,
L0775: 2, H0576: 2, L0748:
2, T0002: 1, H0221: 1,
H0220: 1, H0140: 1, H0341:
1, H0255: 1, H0589: 1,
H0638: 1, H0608: 1, H0635:
1, H0427: 1, S0474: 1,
H0050: 1, S0214: 1, H0428:
1, H0039: 1, H0634: 1,
H0063: 1, H0087: 1, H0272:
1, T0041: 1, S0450: 1,
S0144: 1, S0344: 1, L0762:
1, L0770: 1, L0769: 1,
L0667: 1, L0800: 1, L0774:
1, L0806: 1, L0776: 1,

119	HMWIW46	703503	129	534 - 1145	1534	Glu-49 to Gln-55, Asn-115 to Gln-136, Glu-154 to Asn-169, Ser-183 to Asn-191.	82-98

AR055: 10, AR052: 9, AR053: 7, AR060: 6, AR061: 5, AR033: 5, AR096: 5, AR104: 5, AR089: 4, AR039: 3 L0766: 13, L0749: 8, L0776: 6, L0803: 5, L0770: 4, L0805: 4, H0100: 3, L0794: 3, L0789: 3, L0748: 3, L0745: 3, L0779: 3, L0777: 3, T0002: 2, H0090: 2, L0800: 2, L0809: 2, H0134: 2, L0756: 2, L0752: 2, L0758: 2, L0605: 2, H0170: 1, H0556: 1, H0341: 1, H0192: 1, S0476: 1, H0549: 1, S0222: 1, H0587: 1, H0013: 1, H0575: 1, T0103: 1, H0046: 1, H0067: 1, H0266: 1, H0284: 1, T0042: 1, L0796: 1, L0761: 1, L0363: 1, L0768: 1, L0655: 1, L0607: 1, L0661: 1, L0659: 1, L0809: 1, L0787: 1, L0664: 1, S0052: 1, S0053: 1, H0698: 1, H0701: 1, S0330: 1, S0378: 1, H0521: 1, H0214: 1, L0756: 1, L0779: 1, L0777: 1, L0755: 1 and H0136: 1.

120	HSDIJ72	705030	130	242 - 646	1535				108-124

L0636: 1, H0703: 1, S0126: 1, H0682: 1, S0404: 1, S0028: 1, L0754: 1, L0747: 1, L0750: 1, L0755: 1, L0757: 1, L0759: 1, S0026: 1 and H0136: 1.

AR052: 23, AR055: 16,
AR053: 14, AR096: 10,
AR089: 9, AR060: 8,
AR061: 7, AR033: 6,
AR039: 4, AR104: 4
L0747: 5, L0749: 5,
L0764: 3, L0804: 3, L0755: 3, S0360: 2, H0135: 2,
H0529: 2, H0696: 2, H0134: 2, S0406: 2, L0777: 2,
L0731: 2, L0758: 2, L0362: 2, H0265: 1, H0294: 1,
S0116: 1, S0418: 1, S0420: 1, S0132: 1, H0586: 1,
H0333: 1, H0486: 1, H0156: 1, H0597: 1, H0178: 1,
L0471: 1, H0057: 1, H0083: 1, H0594: 1, S0022: 1,
T0023: 1, H0617: 1, L0055: 1, H0674: 1, H0591: 1,
H0551: 1, H0413: 1, H0494: 1, H0560: 1, S0448: 1,
S0440: 1, H0646: 1, L0662: 1, L0766: 1, L0649: 1,

121	HSLGO34	706987	131	46 - 408	1536	Met-1 to Leu-6, Ala-10 to Tyr-15, Arg-65 to Gln-70, Pro-107 to Glu-116.	L0783: 1, L0383: 1, L0382: 1, L0789: 1, L0666: 1, L0663: 1, H0520: 1, S0126: 1, H0689: 1, S0390: 1, L0751: 1, L0752: 1, L0759: 1, S0031: 1, S0260: 1, S0434: 1, L0597: 1, H0667: 1 and S0424: 1. AR061: 165, AR033: 29, AR089: 28, AR060: 27, AR052: 5, AR055: 5, AR053: 5, AR096: 5, AR104: 2, AR039: 1 S0222: 2, L0439: 2, S0028: 1 and L0731: 1.	80-99
122	HTOJF39	707266	132	214 - 519	1537		AR096: 6, AR053: 5, AR052: 5, AR055: 5, AR033: 4, AR060: 3, AR061: 3, AR089: 3, AR104: 2, AR039: 2 L0766: 7, H0521: 3, L0779: 3, H0543: 3, H0580: 2, H0509: 2, L0662: 2, L0803: 2, L0805: 2, H0519: 2, H0539: 2, L0756: 2, L0759: 2, H0542: 2, S0116: 1, S0354: 1, H0637: 1, H0574: 1, H0421: 1, S6028: 1, S0003: 1, S0214: 1.	42-59, 15-31

123	HPDEF35	707398	133	36 - 362	1538	Ser-21 to Gly-28, Gly-36 to Arg-41, Arg-66 to Tyr-74.	AR053: 18, AR052: 17, AR055: 15, AR096: 14, AR089: 11, AR060: 9, AR061: 8, AR033: 8, AR104: 7, AR039: 5, H0457: 2, T0023: 1, H0144: 1, H0436: 1 and H0677: 1.	H0688: 1, H0591: 1, H0264: 1, S0210: 1, H0529: 1, L0794: 1, L0804: 1, L0664: 1, S0374: 1, H0672: 1, L0754: 1, H0445: 1, L0604: 1 and S0194: 1.			45-62
124	HFIAW95	707878	134	129 - 533	1539	Arg-39 to Thr-46.	AR039: 47, AR033: 18, AR053: 16, AR104: 14, AR089: 14, AR095: 14, AR055: 11, AR052: 10, AR060: 10, AR061: 7, L0758: 4, L0731: 2, S0192: 2, H0038: 1 and L0638: 1.				77-95, 5-21
125	HMEIU36	708053	135	132 - 635	1540	Ser-108 to Gln-125, Thr-156 to Glu-166.	AR096: 20, AR039: 17, AR089: 13, AR052: 11, AR053: 10, AR055: 9, AR060: 9, AR104: 8, AR033: 8, AR061: 4, L0803: 14, S0474: 13, L0748: 13, S0408: 11,		3p21.3	116806, 120120, 120120, 120120, 120436, 120436, 120436,	51-68

	138320, 168468, 182280, 600163
	L0754: 9, S0422: 7, S0360: 6, L0794: 6, L0809: 6, L0758: 6, H0265: 5, L0770: 5, L0805: 5, L0666: 5, L0749: 5, L0755: 5, L0731: 5, S0414: 4, H0581: 4, H0271: 4, L0771: 4, L0439: 4, L0591: 4, H0327: 3, H0457: 3, H0266: 3, L0804: 3, L0776: 3, L0659: 3, L0518: 3, L0665: 3, L0751: 3, S0434: 3, S0436: 3, S0412: 3, H0656: 2, S0116: 2, S0212: 2, H0661: 2, S0358: 2, S0132: 2, H0574: 2, H0156: 2, S0010: 2, H0009: 2, H0123: 2, H0087: 2, H0551: 2, L0598: 2, L0763: 2, L0761: 2, L0662: 2, L0766: 2, L0655: 2, L0636: 2, L0664: 2, S0374: 2, H0547: 2, H0660: 2, S0378: 2, H0436: 2, L0750: 2, L0756: 2, L0596: 2, L0603: 2, H0136: 2, H0624: 1, H0556: 1, S0040: 1, H0295: 1, S0114: 1, S0356: 1, S0442: 1, S0376: 1, S0444: 1, H0730: 1, H0208: 1, S0045: 1, S0476: 1,

H0393: 1, H0351: 1, S0222: 1, H0431: 1, H0586: 1,
H0333: 1, H0642: 1, H0486: 1, H0013: 1, H0069: 1,
H0635: 1, H0427: 1, L0021: 1, H0042: 1, H0575: 1,
T0082: 1, H0253: 1, H0318: 1, H0251: 1, L0040: 1,
H0545: 1, H0024: 1, H0051: 1, H0083: 1, H0061: 1,
S0316: 1, H0687: 1, S0003: 1, H0688: 1, H0031: 1,
H0644: 1, H0617: 1, H0038: 1, H0040: 1, H0616: 1,
H0264: 1, H0059: 1, H0100: 1, H0494: 1, H0561: 1,
S0440: 1, S0426: 1, H0529: 1, L0638: 1, L0637: 1,
L0373: 1, L0800: 1, L0764: 1, L0626: 1, L0806: 1,
L0653: 1, L0527: 1, L0657: 1, L0515: 1, L5622: 1,
L0789: 1, L0791: 1, L0663: 1, S0053: 1, I10144: 1,
L0565: 1, H0519: 1, H0435: 1, H0658: 1, S0328: 1,
S0330: 1, H0539: 1, S0380: 1, H0710: 1, H0521: 1,
H0522: 1, H0696: 1, S0044: 1, S0027: 1, S0028: 1,

126	HHEDM89	708177	136	30 - 668	1541	Ser-76 to Ser-82.	AR053: 3, AR096: 3, AR039: 2, AR052: 2, AR104: 2, AR033: 2, AR089: 2, AR060: 1, AR055: 1, AR061: 1 L0779: 5, L0157: 2, L0803: 2, L0754: 2, L0595: 2, H0305: 1, H0589: 1, H0638: 1, H0351: 1, H0486: 1, L0021: 1, H0318: 1, H0596: 1, S0150: 1, S0144: 1, L0364: 1, L0766: 1, L0809: 1, L0532: 1, H0667: 1 and H0542: 1.	L0742: 1, L0744: 1, L0745: 1, L0747: 1, L0752: 1, L0757: 1, L0759: 1, L0605: 1, L0595: 1, S0026: 1, S0192: 1, H0542: 1, H0543: 1, H0423: 1, H0422: 1, S0042: 1, S0462: 1 and H0008: 1.			192-213, 174-190
127	HKABW60	709347	137	95 - 748	1542	Ala-16 to Glu-36, Arg-51 to Thr-56, Glu-104 to Thr-112.	AR033: 13, AR089: 12, AR060: 8, AR053: 8, AR039: 7, AR055: 6, AR052: 6, AR096: 5, AR061: 4, AR104: 3 H0038: 4, H0529: 3, L0803: 3, L0747: 3, L0779:		21q22.3	120220, 120240, 123580, 151385, 171860, 190685, 236100,	70-87

128	HWLFB40	710542	138	79 - 627	1543		
					AR096: 5, AR053: 3, AR061: 3, AR052: 3, AR033: 3, AR089: 3, AR039: 3, AR104: 2, AR055: 2, AR060: 2 L0751: 6, H0510: 3, L0659: 3, L0439: 3, H0265:		
					3, H0341: 2, L0761: 2, L0794: 2, L0766: 2, L0805: 2, L0664: 2, L0777: 2, L0591: 2, L0485: 2, H0556: 1, H0583: 1, H0661: 1, H0662: 1, S0420: 1, S0410: 1, H0333: 1, H0574: 1, S0280: 1, H0318: 1, H0014: 1, H0687: 1, S0003: 1, H0615: 1, L0055: 1, H0598: 1, H0551: 1, H0413: 1, T0042: 1, H0494: 1, S0344: 1, L0451: 1, L0369: 1, L0770: 1, L0769: 1, L0646: 1, L0773: 1, L0662: 1, L0768: 1, L0649: 1, L0381: 1, L0806: 1, L0527: 1, L0659: 1, L0809: 1, L0787: 1, L0438: 1, L0352: 1, S0390: 1, L0740: 1, L0750: 1, L0731: 1, L0757: 1, H0445: 1, L0592: 1 and H0543: 1.	236200, 240300, 267750, 600065, 601072, 601145	
							24-45, 97-116, 67-84

129	HDTDW40	710974	139	54 - 410	1544	Lys-18 to Ser-24.		56-74, 38-54, 89-105
						2, S0212: 2, S0418: 2, H0509: 2, L0773: 2, L0438: 2, L0748: 2, L0754: 2, L0731: 2, L0581: 2, H0556: 1, H0650: 1, L0005: 1, S0354: 1, S0360: 1, S6022: 1, S6014: 1, H0581: 1, H0251: 1, H0178: 1, H0050: 1, L0471: 1, T0010: 1, H0355: 1, H0031: 1, L0143: 1, H0673: 1, H0135: 1, H0551: 1, S0372: 1, S0210: 1, L0770: 1, L0667: 1, L0772: 1, L0771: 1, L0768: 1, L0805: 1, L0776: 1, L0790: 1, L0792: 1, L0666: 1, L0665: 1, H0521: 1, L0744: 1, L0747: 1, L0777: 1, L0755: 1, L0757: 1 and H0445: 1.	AR039: 16, AR096: 11, AR053: 10, AR033: 9, AR052: 7, AR104: 7, AR089: 7, AR055: 6, AR060: 6, AR061: 3 L0438: 3, S0114: 1, H0580: 1, H0486: 1, H0706: 1, L0455: 1, H0561: 1, H0529: 1, H0658: 1 and L0439: 1.	

130	HEAAK34	711111	7 - 825	1545	AR039: 46, AR052: 45, AR053: 36, AR096: 34, AR033: 27, AR055: 24, AR104: 24, AR089: 23, AR060: 18, AR061: 11 L0439: 3, L0438: 2, S0028: 2, H0656: 1, H0645: 1, H0369: 1, S0222: 1, S0346: 1, H0328: 1, H0029: 1, H0644: 1, H0169: 1, H0591: 1, H0646: 1, H0520: 1, H0539: 1, L0746: 1 and L0366: 1.		122-138, 90-106, 145-161
131	HLWAH41	711706	275 - 706	1546	AR096: 3, AR052: 2, AR039: 2, AR055: 2, AR033: 2, AR089: 2, AR060: 2, AR061: 1, AR053: 1, AR104: 1 L0748: 6, L0752: 5, H0553: 2, L0754: 2, L0749: 1 and L0780: 1.		85-117
132	HHSFI89	712570	40 - 369	1547	AR089: 8, AR033: 8, AR060: 6, AR096: 2, AR061: 2, AR053: 1, AR052: 1, AR039: 0, AR104: 0 S0388: 1, H0083: 1 and L0777: 1.	Pro-8 to Thr-16, Glu-50 to Glu-60, Gln-67 to Arg-72, Lys-81 to Asn-94.	93-110
133	HSAVI33	714693	211 -	1548	AR052: 17, AR053: 12,	Met-1 to Arg-6,	52-68, 94-

134	HMJAX17	715359	144	662 - 333	1549	540		22q13.33	110
						Glu-31 to Arg-36, His-85 to Gly-92.	AR033: 11, AR089: 8, AR060: 8, AR096: 7, AR061: 7, AR055: 4, AR104: 1, AR039: 0 L0740: 5, L0731: 5, L0439: 4, H0556: 3, L0766: 3, L0779: 3, H0657: 2, H0013: 2, H0318: 2, L0471: 2, H0547: 2, H0521: 2, L0748: 2, L0756: 2, L0777: 2, L0753: 2, L0601: 2, H0265: 1, S0114: 1, H0656: 1, H0580: 1, H0438: 1, H0333: 1, H0485: 1, H0486: 1, S0010: 1, H0052: 1, T0115: 1, S6028: 1, H0266: 1, H0271: 1, H0165: 1, H0674: 1, H0591: 1, S0002: 1, L0644: 1, L0768: 1, L0650: 1, L0375: 1, L0515: 1, L0659: 1, L0526: 1, L0666: 1, L0663: 1, H0436: 1, L0749: 1, L0750: 1, L0758: 1, L0596: 1, H0668: 1, H0543: 1, H0423: 1 and H0422: 1.		61-79, 78-94
							AR052: 5, AR096: 5, AR089: 4, AR033: 3, AR053: 3, AR055: 2, AR104: 2, AR060: 2,		

135	HLJDZ45	717449	145	271 - 849	1550	AR096: 2, AR060: 1, AR053: 1, AR033: 1, AR089: 0, AR061: 0, AR055: 0, AR104: 0, AR052: 0	AR039: 2, AR061: 2 L0439: 4, L0777: 3, H0658: 2, S0114: 1, S0360: 1, L0717: 1, H0391: 1, H0486: 1, L0157: 1, H0172: 1, H0083: 1, H0551: 1, H0517: 1, L0769: 1, L0521: 1, L0768: 1, L0805: 1, L0664: 1, H0521: 1 and H0555: 1.	171-188
136	HAHBC57	718574	146	40 - 480	1551	Ile-95 to Ala-101, Leu-110 to Ser-128.	AR039: 76, AR052: 40, AR033: 39, AR096: 39, AR055: 38, AR104: 33, AR053: 33, AR089: 28, AR060: 24, AR061: 20 L0485: 2, S0282: 1, S0418: 1, H0002: 1, H0253: 1, H0196: 1, L0794: 1 and L0787: 1.	48-64
137	HLYDR60	718768	147	281 - 661	1552	Glu-22 to Ala-29, Ser-47 to Arg-58, Ser-108 to Tyr-113.	AR096: 1, AR052: 1, AR089: 1, AR060: 0, AR061: 0, AR033: 0, AR039: 0, AR053: 0	111-127

138	HCHMQ09	719977	148	10 - 372	1553		S0182: 3, S0222: 2, H0445: 2, H0341: 1, H0151: 1, H0550: 1, T0039: 1, H0156: 1, H0275: 1, S0318: 1, S0316: 1, T0006: 1, H0040: 1, L0475: 1, S0344: 1, L0768: 1, L0766: 1, H0435: 1, L0750: 1, L0757: 1 and S0260: 1.	94-110
							AR033: 4, AR039: 3, AR096: 2, AR089: 2, AR061: 2, AR052: 1, AR060: 1, AR104: 1, AR053: 0, AR055: 0 H0484: 1, S0280: 1, H0373: 1 and H0593: 1.	
139	HADMD75	720237	149	105 - 431	1554	Arg-11 to Gly-16, Pro-35 to Phe-44.	AR033: 4, AR089: 4, AR061: 2, AR060: 1, AR052: 1, AR104: 1, AR039: 0, AR055: 0, AR096: 0, AR053: 0 L0805: 3, L0439: 3, H0674: 2, L0518: 2, L0809: 2, L0789: 2, L0751: 2, L0758: 2, H0390: 1, H0544: 1, H0570: 1, S0051: 1, T0006: 1, L0769: 1, L0800: 1, L0794: 1, L0803: 1, L0661: 1, L0636: 1, L0529:	76-99

| 140 | HKADW4 7 | 720269 | 150 | 51 - 473 | 1555 | Ala-7 to Lys-28, Gly-45 to Lys-55. | AR052: 3, AR096: 3, AR033: 2, AR053: 1, AR039: 1, AR104: 1, AR055: 1, AR089: 1, AR060: 1, AR061: 1 L0794: 10, L0803: 4, S0045: 3, H0486: 3, H0013: 3, H0251: 3, H0591: 3, H0265: 2, S0360: 2, S0222: 2, H0090: 2, H0561: 2, L0809: 2, H0519: 2, L0439: 2, L0758: 2, L0591: 2, H0170: 1, H0556: 1, S0040: 1, S0114: 1, L0760: 1, H0255: 1, S0444: 1, H0432: 1, H0587: 1, H0632: 1, H0492: 1, H0575: 1, H0178: 1, H0050: 1, H0620: 1, H0688: 1, H0553: 1, L0435: 1, H0494: 1, H0641: 1, L0638: 1, L0761: 1, L0766: 1, L0774: 1, L0653: 1, L0663: 1, H0144: 1, L0438: 1, H0689: 1, H0659: 1, H0521: 1, S0146: 1, L0748: | 1, L0543: 1, L0665: 1, H0696: 1, H0694: 1, S0406: 1, L0747: 1, L0779: 1, L0777: 1, L0731: 1 and H0352: 1. | | | 89-107 |

141	HFAUL30	721084	151	28 - 327	1556	Gly-10 to Glu-16, Gln-88 to Leu-99.			62-78

1, L0754: 1, L0747: 1, L0750: 1, L0752: 1, S0434: 1, L0595: 1 and L0366: 1.

AR055: 16, AR039: 15, AR033: 15, AR053: 13, AR052: 10, AR089: 10, AR096: 10, AR104: 9, AR060: 8, AR061: 7, L0769: 4, S0126: 4, L0758: 4, L0755: 3, S0358: 2, S0444: 2, H0617: 2, H0673: 2, L0764: 2, S0374: 2, L0748: 2, L0779: 2, L0592: 2, H0716: 1, H0656: 1, H0341: 1, S0418: 1, S0420: 1, H0675: 1, S0408: 1, H0580: 1, S0046: 1, S0300: 1, H0632: 1, H0013: 1, S0280: 1, L0043: 1, H0606: 1, H0316: 1, S0150: 1, S0344: 1, L0762: 1, L0763: 1, L0761: 1, L0771: 1, L0766: 1, L0774: 1, L0775: 1, L0375: 1, L0655: 1, L0382: 1, H0144: 1, H0690: 1, S0328: 1, H0710: 1, H0521: 1, L0744: 1, L0786: 1, L0731: 1, H0445: 1, H0667: 1, S0276: 1, H0543: 1, H0422: 1 and

| 142 | HKADD23 | 721126 | 152 | 181 - 609 | 1557 | | S0446: 1. AR104: 10, AR033: 7, AR052: 6, AR089: 4, AR053: 4, AR096: 3, AR039: 3, AR060: 3, AR055: 2, AR061: 0 L0766: 4, H0494: 2, L0755: 2, S0040: 1, S0420: 1, S0046: 1, S0132: 1, S0222: 1, H0438: 1, H0250: 1, S0010: 1, H0038: 1, H0538: 1, L0800: 1, L0773: 1, H0670: 1 and L0777: 1. | 70-87 |
| 143 | HE8MO09 | 721141 | 153 | 42 - 401 | 1558 | Leu-14 to Glu-23, Lys-41 to Arg-50, Pro-90 to Gln-96. | AR053: 42, AR096: 31, AR052: 30, AR089: 24, AR033: 23, AR104: 18, AR039: 18, AR055: 16, AR060: 16, AR061: 8 L0439: 9, H0013: 3, H0090: 2, H0561: 2, L0754: 2, L0731: 2, H0170: 1, H0341: 1, H0580: 1, H0485: 1, L0471: 1, H0024: 1, H0644: 1, H0591: 1, H0551: 1, L0766: 1, L0606: 1, L0659: 1, L0438: 1, L0352: 1, H0672: 1, H0521: 1, H0436: 1, H0627: 1, L0748: 1 and H0542: 1. | 71-87 |

144	HE8FL67	721418	213 - 593	1559	Met-1 to Gly-7.	AR039: 20, AR089: 18, AR052: 18, AR053: 17, AR096: 17, AR033: 15, AR055: 15, AR104: 14, AR060: 13, AR061: 6 H0013: 1, L0761: 1 and L0779: 1.	106-127, 56-77, 80-98
145	HEOOA49	722648	124 - 600	1560	Met-1 to Cys-18.	AR089: 6, AR033: 5, AR060: 5, AR053: 3, AR096: 3, AR061: 2, AR052: 2, AR039: 2, AR055: 2, AR104: 1 H0617: 9, H0549: 4, S0406: 4, L0439: 3, H0717: 2, H0255: 2, S0358: 2, H0550: 2, S0049: 2, H0494: 2, L0777: 2, H0713: 1, H0716: 1, H0484: 1, S0356: 1, S0132: 1, H0619: 1, L0021: 1, H0421: 1, H0457: 1, S0366: 1, H0379: 1, S0344: 1, H0529: 1, L0639: 1, L0761: 1, L0803: 1, L0774: 1, L0657: 1, L0783: 1, L0789: 1, H0593: 1, H0539: 1, I10436: 1 and H0543: 1.	42-58, 73-89, 120-136
146	HMSJH49	722943	34 - 591	1561		AR055: 11, AR060: 7, AR096: 5, AR033: 5,	77-97, 14-31

#										
							AR052: 5, AR061: 5, AR039: 4, AR089: 3, AR053: 3, AR104: 3 L0539: 2, H0546: 1, S0386: 2, H0560: 1, S0002: 1, L0741: 1 and L0746: 1.			
147	HARAX45	723491	157	218 - 910	1562	Pro-28 to Ser-33, Pro-66 to Arg-79, Ser-163 to Gly-180.	AR060: 9, AR104: 8, AR096: 8, AR055: 8, AR039: 7, AR033: 7, AR052: 6, AR053: 5, AR061: 5, L0740: 20, L0745: 8, L0777: 5, T0082: 2, L0758: 2, H0251: 1 and L0747: 1.	15q13-q14	102540, 103581, 118511, 146150, 218000, 227220, 243500, 254770, 601623, 601800, 601889, 602117	1-25, 86-119, 142-159, 79-95
148	HDTES50	724196	158	48 - 395	1563		AR096: 3, AR039: 1, AR052: 1, AR089: 1, AR060: 1, AR055: 0, AR061: 0, AR033: 0, AR053: 0, AR104: 0 H0341: 1 and H0486: 1.			89-107, 6-22
149	HKGBC30	724352	159	318 - 662	1564	Met-1 to Ala-7, His-24 to Pro-35.	AR061: 1, AR033: 1, AR039: 0, AR089: 0, AR053: 0, AR096: 0, AR055: 0, AR060: 0, AR052: 0, AR104: 0			41-58

150	HKIXO37	724432	160	90 - 500	1565	Glu-10 to Asn-15, Val-73 to Arg-83, Gly-118 to Ser-128.	AR052: 19, AR055: 18, AR089: 17, AR053: 14, AR033: 11, AR061: 9, AR060: 9, AR096: 8, AR039: 0, AR104: 0 L0766: 4, H0441: 1, L0744: 1 and L0596: 1.			90-106, 42-58
151	HTLFI39	724950	161	218 - 577	1566	Met-1 to Ser-7.	AR039: 53, AR055: 28, AR053: 27, AR033: 23, AR052: 21, AR096: 21, AR104: 21, AR089: 18, AR060: 15, AR061: 13 H0618: 8 and H0253: 4.	7q22	126650, 126650, 154276, 173360, 173360, 602136, 602136, 602136, 602447	43-59
152	HEQBJ81	725228	162	127 - 888	1567	Glu-122 to Lys-127, Glu-161 to Val-168, Thr-178 to Trp-189.	AR104: 4, AR033: 4, AR089: 3, AR053: 3, AR052: 3, AR096: 2, AR061: 2, AR060: 2, AR055: 2, AR039: 2 L0803: 6, L0771: 5, L0439: 5, L0769: 4, L0805: 4, L0759: 4, L0747: 3, L0777: 3, L0758: 3, H0156: 2, H0618: 2, H0052: 2, H0545: 2, L0163: 2, H0644: 2, S0440: 2, L0644: 2,	3p21.3	116806, 120120, 120120, 120120, 120436, 120436, 120436, 138320, 168468, 182280, 600163	221-238, 54-70

153	HAGES18	725655	163	215 - 568	1568	Met-1 to Lys-11, Gln-72 to Gly-77.	L0766: 2, L0653: 2, L0665: 2, H0539: 2, L0748: 2, L0731: 2, L0593: 2, H0624: 1, H0556: 1, T0002: 1, H0713: 1, H0650: 1, H0657: 1, H0402: 1, S0360: 1, S0132: 1, H0619: 1, L0717: 1, S0278: 1, H0642: 1, H0486: 1, T0039: 1, H0013: 1, H0253: 1, S0665: 1, H0544: 1, H0546: 1, H0009: 1, H0620: 1, H0014: 1, H0083: 1, S6028: 1, H0288: 1, H0674: 1, S0366: 1, H0591: 1, H0412: 1, H0100: 1, T0042: 1, L0475: 1, H0561: 1, H0647: 1, S0144: 1, H0529: 1, L0763: 1, L0772: 1, L0372: 1, L0662: 1, L0363: 1, L0794: 1, L0775: 1, L0776: 1, L0809: 1, L0666: 1, L0663: 1, H0702: 1, H0520: 1, S0126: 1, H0435: 1, H0658: 1, S0332: 1, H0478: 1, L0751: 1, L0750: 1, L0755: 1, L0592: 1, L0366: 1, H0542: 1, I0423: 1 and H0677: 1.	AR033: 28, AR060: 19, AR104: 19, AR089: 18,	22-63, 51-67

154	HHSGV20	725822	164	183 - 575	1569	Arg-14 to Pro-20.		
						AR104: 21, AR033: 17, AR055: 11, AR060: 6, AR061: 6, AR039: 6, AR089: 6, AR053: 5, AR052: 4, AR096: 4 L0439: 13, H0052: 8, L0769: 5, L0755: 5, L0770: 4, L0754: 4, L0753: 4, L0758: 4, L0794: 3, L0775: 3, L0806: 3, L0776: 3, L0752: 3, S0360: 2, H0261: 2, S0388: 2, H0213: 2, L0804: 2, L0774: 2, L0807: 2, L0779: 2, L0603: 2, S0256: 1, H0255: 1, H0455: 1, H0009: 1, H0172: 1, S0051: 1, T0010: 1, T0006: 1, H0033: 1, H0424: 1, S0364: 1, S0036: 1, H0038: 1, H0131: 1, L0764: 1, L0803: 1, L0805: 1, L0809: 1, L0787: 1, L0790: 1, L0663: 1, H0521: 1, L0742: 1, L0751: 1, L0745: 1, L0731: 1 and L0485: 1.	AR096: 13, AR061: 8, AR055: 6, AR053: 5, AR052: 5, AR039: 3	69-85, 27-44, 112-128

| 155 | HNECD53 | 727386 | 165 | 117 - 554 | 1570 | Pro-13 to Ser-19, Ala-21 to Asp-30, Gln-41 to Val-48, Asp-108 to Leu-113. | AR096: 4, AR055: 3, AR033: 3, AR060: 2, AR052: 2, AR089: 2, AR053: 2, AR061: 2, AR104: 0 L0731: 8, L0794: 7, L0803: 4, H0265: 3, L0809: 3, L0596: 3, L0766: 2, L0659: 2, L0565: 2, L0595: 2, H0556: 1, S0134: 1, H0657: 1, H0341: 1, S0356: 1, H0411: 1, S0222: 1, T0104: 1, H0013: 1, H0618: 1, H0597: 1, H0050: 1, H0620: 1, H0179: 1, H0292: 1, H0553: 1, T0067: 1, H0412: 1, S0422: 1, L0644: 1, L0662: 1, L0804: 1, L0805: 1, L0636: 1, L0789: 1, L0665: 1, S0126: 1, S0152: 1, H0704: 1, H0215: 1, L0786: 1, L0779: 1, L0777: 1, L0780: 1, L0758: 1, L0759: 1, L0608: 1 and L0361: 1. | | | 121-144, 89-105 |
| 156 | HRAΛO53 | 728064 | 166 | 71 - 403 | 1571 | Arg-7 to Leu-15. | AR052: 4, AR039: 3, AR104: 3, AR033: 2, AR096: 2, AR060: 2, AR053: 2, AR055: 2, AR089: 1, AR061: 1 | 13q14.1-q14.2 | 136533, 180200, 180200, 180200, 180200, | 34-54, 83-101 |

600631

L0747: 21, L0740: 20, H0144: 17, L0663: 15, L0666: 14, L0748: 14, L0662: 12, L0665: 11, H0656: 10, H0013: 10, L0659: 10, H0672: 10, L0758: 10, H0486: 9, S0422: 9, L0766: 9, H0539: 9, L0731: 9, L0599: 9, S0360: 8, S0222: 8, H0457: 8, H0090: 8, H0423: 8, H0050: 7, L0471: 7, H0519: 7, H0648: 7, H0657: 6, S0358: 6, H0024: 6, S0003: 6, L0598: 6, L0775: 6, L0776: 6, L0744: 6, L0756: 6, L0777: 6, S0434: 6, S0026: 6, S0116: 5, S0356: 5, S0444: 5, H0014: 5, L0637: 5, L0646: 5, L0655: 5, L0809: 5, H0696: 5, S0436: 5, L0608: 5, L0362: 5, S0412: 5, S0134: 4, H0583: 4, H0650: 4, S0408: 4, S0045: 4, L0717: 4, H0046: 4, H0622: 4, H0031: 4, H0163: 4, H0591: 4, H0040: 4, T0067: 4, T0041: 4, L0764: 4, L0768: 4, L0774: 4, L0375: 4, L0653:

4, S0374: 4, L0438: 4, H0520: 4, H0670: 4, H0555: 4, L0754: 4, L0750: 4, L0755: 4, L0757: 4, L0591: 4, L0361: 4, H0422: 4, H0624: 3, H0341: 3, S0442: 3, S0376: 3, S0007: 3, H0441: 3, H0586: 3, H0036: 3, H0581: 3, H0052: 3, H0266: 3, H0553: 3, H0644: 3, H0038: 3, H0551: 3, H0647: 3, H0646: 3, L0771: 3, L0517: 3, L0664: 3, H0593: 3, H0660: 3, S0406: 3, L0745: 3, L0746: 3, L0752: 3, H0445: 3, S0192: 3, H0542: 3, H0170: 2, H0716: 2, H0662: 2, H0580: 2, H0619: 2, S0278: 2, H0369: 2, S0414: 2, T0060: 2, H0156: 2, H0599: 2, S0049: 2, H0178: 2, L0163: 2, H0051: 2, S0388: 2, H0083: 2, H0252: 2, H0328: 2, H0615: 2, H0688: 2, T0023: 2, H0674: 2, L0455: 2, H0068: 2, H0135: 2, H0100: 2, S0440: 2, H0641: 2, S0002: 2, L0520: 2, L0641: 2, L0794: 2, L0651:

2, L0555: 2, L0526: 2,
L0518: 2, L0545: 2, H0547:
2, H0684: 2, H0658: 2,
S0328: 2, H0478: 2, S0028:
2, L0439: 2, L0751: 2,
L0779: 2, S0031: 2, L0605:
2, L0590: 2, H0543: 2,
S0452: 2, L0411: 1, H0171:
1, L0615: 1, H0265: 1,
H0556: 1, H0686: 1, S0040:
1, S0342: 1, H0713: 1,
H0255: 1, H0661: 1, H0459:
1, H0638: 1, S0420: 1,
H0329: 1, S0046: 1, S0132:
1, H0393: 1, S6026: 1,
H0549: 1, H0550: 1, H0461:
1, H0370: 1, H0600: 1,
H0587: 1, H0333: 1, H0331:
1, H0574: 1, H0485: 1,
L0586: 1, H0069: 1, H0635:
1, T0082: 1, H0590: 1,
S0010: 1, S0346: 1, H0318:
1, H0374: 1, H0194: 1,
T0110: 1, L0738: 1, H0572:
1, H0123: 1, H0012: 1,
H0015: 1, H0373: 1, S0051:
1, H0356: 1, H0239: 1,
H0594: 1, S6028: 1, H0267:
1, H0271: 1, H0188: 1,
H0428: 1, H0039: 1, L0194:

1, H0030: 1, H0111: 1,
H0628: 1, H0617: 1, L0055:
1, H0169: 1, S0036: 1,
H0634: 1, L0060: 1, H0380:
1, H0264: 1, H0272: 1,
H0487: 1, H0412: 1, H0623:
1, H0059: 1, H0102: 1,
L0351: 1, H0494: 1, S0015:
1, S0016: 1, H0560: 1,
S0150: 1, H0652: 1, S0144:
1, H0538: 1, L0369: 1,
L0763: 1, L0770: 1, L0769:
1, L0772: 1, L0373: 1,
L0773: 1, L0648: 1, L0521:
1, L0363: 1, L0649: 1,
L0803: 1, L0784: 1, L0523:
1, L0805: 1, L0606: 1,
L0661: 1, L0527: 1, L0657:
1, L0636: 1, L0635: 1,
L0547: 1, L0530: 1, L0791:
1, L0793: 1, S0053: 1,
H0723: 1, H0691: 1, S0148:
1, L0352: 1, S0126: 1,
H0689: 1, H0690: 1, H0659:
1, H0518: 1, S0350: 1,
H0521: 1, H0522: 1, S0044:
1, S0146: 1, H0134: 1,
H0540: 1, S3014: 1, L0786:
1, L0759: 1, H0343: 1,
H0595: 1, L0595: 1, L0366:

| 157 | HDPGD34 | 728098 | 167 | 132 - 863 | 1572 | Tyr-5 to Gly-13, Ala-23 to Leu-38, Tyr-82 to Leu-95, Asn-126 to Asp-146, Pro-153 to Pro-167. | 1, H0667: 1, S0276: 1, S0424: 1, S0462: 1, S0456: 1, H0008: 1 and H0352: 1. AR096: 1, AR104: 1, AR089: 1, AR060: 1, AR061: 0, AR033: 0, AR039: 0, AR052: 0, AR055: 0, AR053: 0 L0740: 10, H0521: 8, L0659: 7, L0666: 7, L0731: 7, L0664: 6, L0754: 6, L0803: 5, L0752: 5, S0003: 4, L0770: 4, L0771: 4, L0438: 4, H0547: 4, S0380: 4, S0152: 4, H0522: 4, L0755: 4, H0171: 3, S0212: 3, S0358: 3, H0013: 3, H0545: 3, H0623: 3, S0344: 3, H0520: 3, S0126: 3, H0648: 3, H0539: 3, L0602: 3, L0744: 3, L0750: 3, L0758: 3, L0599: 3, S0026: 3, S0192: 3, S0242: 3, L0005: 2, S0360: 2, H0581: 2, H0510: 2, H0375: 2, L0483: 2, H0169: 2, H0090: 2, H0379: 2, H0056: 2, H0560: 2, L0662: 2, L0794: 2, L0766: 2, L0775: 2, H0660: 2, L0757: 2, H0667: | 40-72 |

2, H0543: 2, H0422: 2,
H0624: 1, H0265: 1, S0040:
1, S0134: 1, S0116: 1,
S0418: 1, H0637: 1, H0580:
1, H0329: 1, H0208: 1,
S0045: 1, H0370: 1, H0574:
1, T0040: 1, H0590: 1,
S0010: 1, S0346: 1, S0474:
1, H0263: 1, H0596: 1,
H0544: 1, H0546: 1, L0471:
1, T0003: 1, H0024: 1,
S0050: 1, H0373: 1, S0388:
1, H0083: 1, S6028: 1,
S0214: 1, H0615: 1, H0428:
1, H0622: 1, H0553: 1,
L0142: 1, H0032: 1, H0598:
1, S0036: 1, H0040: 1,
H0616: 1, H0063: 1, H0551:
1, H0268: 1, H0269: 1,
S0386: 1, T0041: 1, L0065:
1, S0150: 1, H0641: 1,
H0529: 1, L0369: 1, L0763:
1, L0667: 1, L0800: 1,
L0764: 1, L0648: 1, L0804:
1, L0651: 1, L0519: 1,
L0788: 1, L0663: 1, L0665:
1, H0144: 1, H0593: 1,
H0690: 1, H0659: 1, H0670:
1, S0330: 1, H0696: 1,
H0694: 1, S0168: 1, H0134:

							1, H0555: 1, H0436: 1, H0478: 1, S0027: 1, S0028: 1, L0439: 1, L0688: 1, L0583: 1, L0362: 1, L0366: 1, H0668: 1, S0196: 1, H0542: 1, H0423: 1, S0456: 1 and S0021: 1.	
158	HLYBU12	728763	168	212 - 769	1573	Thr-35 to Lys-40, Pro-63 to Gln-69, Leu-122 to Thr-128.	AR096: 1, AR052: 1, AR104: 1, AR033: 1, AR089: 0, AR053: 0, AR055: 0, AR061: 0, AR060: 0 L0766: 5, L0748: 3, L0758: 3, L0791: 2, S0328: 2, L0747: 2, L0777: 2, H0251: 1, H0673: 1, L0803: 1, L0806: 1, L0665: 1, H0547: 1, H0436: 1, L0749: 1, L0756: 1, L0779: 1, L0759: 1, H0445: 1 and L0592: 1.	42-63, 12-28
159	HEONV59	728861	169	157 - 972	1574	Tyr-81 to Ile-88, Ala-113 to Gln-118, Asn-183 to Ser-189.	AR096: 2, AR055: 1, AR089: 1, AR033: 1, AR060: 1, AR061: 0, AR053: 0, AR039: 0, AR104: 0, AR052: 0 H0457: 1 and H0521: 1.	230-267, 2-18, 87-103
160	HCWIHX54	728903	170	95 - 445	1575		AR061: 0, AR060: 0, AR096: 0, AR033: 0,	88-105, 60-76

161	HE8DF23	171	739 - 1101	1576	Arg-26 to Gln-35, Arg-41 to Asn-46, Tyr-80 to Ser-85.	AR053: 19, AR052: 17, AR089: 12, AR096: 12, AR055: 12, AR060: 8, AR033: 7, AR061: 5, AR104: 4, AR039: 3 L0766: 4, L0779: 4, L0803: 3, L0747: 3, L0752: 3, H0039: 2, H0059: 2, L0794: 2, S0027: 2, L0744: 2, L0740: 2, L0777: 2, L0759: 2, S0430: 1, S0418: 1, S0358: 1, S6014: 1, H0497: 1, H0013: 1, H0575: 1, H0123: 1, H0510: 1, H0040: 1, L0761: 1, L0662: 1, L0804: 1, L0774: 1, L0775: 1, L0776: 1, L0384: 1, L0787: 1, L0663: 1, H0702: 1, H0547: 1, H0682: 1, H0696: 1, L0749: 1, L0753: 1, L0731: 1, H0445: 1, H0595: 1, S0276: 1 and H0542: 1. AR052: 0, AR039: 0, AR104: 0, AR089: 0, AR055: 0, AR053: 0 H0305: 1 and H0423: 1.	103-119, 55-71
162	HOECO53	172	113 - 439	1577	Phe-22 to Asn-33, Ala-68 to Gly-73.	AR039: 53, AR033: 27, AR096: 21, AR055: 20,	43-62, 1-17

AR053: 19, AR104: 18, AR052: 18, AR089: 18, AR061: 15, AR060: 15 S0126: 10, L0766: 5, S0027: 5, L0748: 5, L0754: 5, H0484: 4, S0007: 4, H0370: 4, H0617: 4, H0087: 4, L0803: 4, L0776: 4, L0744: 4, L0758: 4, S0360: 3, S0408: 3, S0045: 3, S0046: 3, S0278: 3, H0544: 3, H0545: 3, H0023: 3, S0144: 3, S0142: 3, L0773: 3, L0794: 3, L0655: 3, L0659: 3, L0751: 3, L0747: 3, H0543: 3, H0422: 3, S0040: 2, H0295: 2, H0341: 2, S0029: 2, H0549: 2, H0441: 2, H0486: 2, H0069: 2, H0530: 2, H0150: 2, H0050: 2, H0057: 2, H0510: 2, H0424: 2, H0634: 2, H0551: 2, L0763: 2, L0646: 2, L0378: 2, L0806: 2, L0805: 2, H0539: 2, H0710: 2, H0696: 2, S3014: 2, S0028: 2, L0742: 2, L0745: 2, L0750: 2, L0755: 2, L0757: 2, H0445: 2, S0436: 2, H0542: 2, H0423: 2,

H0170: 1, H0171: 1, H0556: 1, H0716: 1, S6024: 1,
H0294: 1, S0114: 1, H0657: 1, H0656: 1, H0381: 1,
S0116: 1, S0282: 1, H0638: 1, H0125: 1, S0442: 1,
H0728: 1, S0132: 1, S6022: 1, S0222: 1, H0392: 1,
H0592: 1, S0280: 1, L0021: 1, T0082: 1, H0618: 1,
S0049: 1, H0251: 1, H0309: 1, H0327: 1, H0178: 1,
H0567: 1, H0081: 1, H0012: 1, H0024: 1, S0051: 1,
H0083: 1, H0594: 1, H0179: 1, H0188: 1, H0290: 1,
H0292: 1, H0252: 1, H0328: 1, S0368: 1, H0181: 1,
H0063: 1, H0264: 1, S0038: 1, H0560: 1, H0625: 1,
S0464: 1, S0440: 1, H0130: 1, H0641: 1, H0646: 1,
S0344: 1, H0529: 1, L0369: 1, L0371: 1, L0761: 1,
L0772: 1, L0800: 1, L0662: 1, L0768: 1, L0364: 1,
L5568: 1, L0774: 1, L0523: 1, L0653: 1, L0807: 1,
L0809: 1, L0647: 1, L0664: 1, S0052: 1, S0216: 1,

163	HDFAB91	173	375 - 1022	1578	Cys-30 to Tyr-36, Thr-41 to Gly-46, Val-111 to His-122, Pro-201 to Arg-206, Pro-209 to His-216.	H0144: 1, H0547: 1, H0670: 1, S0378: 1, S0152: 1, H0521: 1, H0522: 1, S3012: 1, S0206: 1, L0743: 1, L0740: 1, L0779: 1, L0731: 1, L0588: 1, L0608: 1, L0603: 1, H0653: 1, H0667: 1, H0216: 1, S0192: 1, S0194: 1 and S0196: 1.	AR033: 7, AR052: 2, AR089: 1, AR053: 1, AR061: 1, AR060: 1, AR055: 0, AR096: 0, AR104: 0, AR039: 0 L0769: 8, L0794: 8, L0439: 7, H0399: 3, L5565: 3, L0758: 3, H0253: 2, H0051: 2, L0438: 2, L0748: 2, L0777: 2, H0624: 1, H0441: 1, H0438: 1, L0021: 1, H0618: 1, S0049: 1, H0562: 1, S0050: 1, S0051: 1, L0638: 1, L0789: 1, H0547: 1, H0658: 1, L0743: 1, L0753: 1, S0031: 1 and S0260: 1.	139-168, 1-18
164	HWLER32	174	157 - 666	1579	Lys-45 to Arg-52.	AR096: 75, AR089: 75, AR039: 63, AR104: 56, AR053: 46, AR052: 36,		5-26, 90-108, 52-72

165	HNFJE71	732600	175	29 - 430	1580		43-59
					Gln-2 to Lys-7, Glu-35 to Thr-42, Arg-64 to Ser-72.	AR060: 31, AR033: 30, AR055: 11, AR061: 10 L0748: 3, S0354: 1, H0421: 1, H0355: 1, S0428: 1 and S0031: 1.	

AR055: 9, AR052: 7, AR060: 4, AR033: 4, AR061: 4, AR089: 3, AR096: 3, AR053: 3, AR039: 1, AR104: 1 H0271: 11, L0759: 4, L0779: 3, L0755: 3, H0222: 2, H0575: 2, H0705: 2, H0581: 2, H0622: 2, H0030: 2, L0803: 2, L0659: 2, L0790: 2, L0754: 2, L0749: 2, L0777: 2, L0591: 2, H0556: 1, H0159: 1, T0049: 1, H0650: 1, S0418: 1, S0045: 1, H0437: 1, T0060: 1, H0069: 1, H0599: 1, H0046: 1, L0163: 1, S0051: 1, H0083: 1, H0179: 1, H0416: 1, H0039: 1, H0553: 1, H0628: 1, S0366: 1, H0038: 1, H0551: 1, H0488: 1, H0268: 1, H0059: 1, T0042: 1, S0422: 1, H0529: 1, L0770: 1, L0667: 1, L0800: 1, L0641: 1, L0773:

| 166 | HOUHA56 | 732902 | 176 | 114 - 536 | 1581 | Phe-6 to Ser-16. | 1, L0662: 1, L0794: 1, L0766: 1, L0650: 1, L0375: 1, L0530: 1, L0791: 1, L0663: 1, S0216: 1, S0380: 1, H0521: 1, S0027: 1, L0748: 1, L0731: 1, L0757: 1, L0758: 1 and H0423: 1. AR033: 6, AR104: 2, AR060: 1, AR052: 1, AR089: 1, AR061: 0, AR055: 0, AR039: 0, AR096: 0, AR053: 0 S0342: 1 | 103-119, 63-79 |
| 167 | HMSHT01 | 733800 | 177 | 664 - 248 | 1582 | Phe-70 to Val-76. | AR060: 6, AR033: 6, AR055: 6, AR089: 5, AR096: 5, AR104: 5, AR052: 3, AR053: 3, AR061: 3, AR039: 1, H0399: 4, L0805: 3, H0661: 2, S0356: 2, H0457: 2, L0794: 2, L0775: 2, L0663: 2, L0747: 2, L0759: 2, L0005: 1, H0580: 1, S0222: 1, H0156: 1, L0021: 1, H0575: 1, H0581: 1, H0327: 1, H0123: 1, H0012: 1, H0057: 1, S0051: 1, H0328: 1, H0163: 1, H0038: 1, H0413: 1, H0100: 1. | 86-103, 30-46 |

168	HAPQM57	734582	178	96 - 401	1583	Arg-16 to Glu-27.	AR055: 9, AR061: 8, AR033: 6, AR052: 6, AR060: 5, AR089: 4, AR053: 4, AR096: 2, AR039: 1, AR104: 1 H0351: 2, H0575: 2, L0794: 2, L0803: 2, L0751: 2, H0333: 1, H0390: 1, H0553: 1, L0645: 1, L0766: 1, L0439: 1, L0747: 1, L0749: 1 and L0601: 1.	S0002: 1, L0598: 1, L0769: 1, L0766: 1, L0657: 1, L0666: 1, L0665: 1, I0435: 1, S0152: 1, H0521: 1, L0740: 1, L0754: 1, L0777: 1, S0194: 1, S0276: 1 and H0542: 1.	50-66, 70-86
169	HSLJK58	735584	233 - 880	179	1584	Pro-5 to Thr-10, Lys-23 to Asn-33, Gln-105 to Tyr-115.	AR055: 4, AR033: 3, AR096: 3, AR052: 3, AR061: 3, AR039: 2, AR060: 2, AR089: 2, AR053: 1, AR104: 1 L0783: 2, L0751: 2, H0409: 1, H0559: 1, L0471: 1, H0646: 1, H0658: 1, S0390: 1, L0777: 1, L0731: 1 and L0462: 1.		194-211, 73-89
170	HSLHL67	735747	180	35 - 673	1585	Glu-40 to Tyr-45.	AR096: 8, AR053: 7,		62-78, 20-

171	HCEMF51	738228	181	681 - 1148	1586	Arg-11 to Ser-24, Ser-37 to Ala-43.	AR060: 7, AR039: 6, AR089: 6, AR052: 6, AR055: 6, AR104: 5, AR033: 5, AR061: 4 S0280: 1, H0488: 1, H0509: 1 and S0028: 1.	36, 111-127
							AR055: 10, AR060: 7, AR033: 6, AR061: 6, AR089: 6, AR052: 4, AR053: 4, AR096: 4, AR104: 3, AR039: 2 H0052: 5, L0748: 5, L0756: 4, L0731: 4, S0360: 3, L0764: 3, L0747: 3, L0749: 3, H0255: 2, H0333: 2, L0055: 2, L0653: 2, L0740: 2, L0754: 2, L0750: 2, L0596: 2, H0352: 2, H0556: 1, H0341: 1, H0662: 1, H0306: 1, H0402: 1, H0036: 1, H0434: 1, H0150: 1, L0456: 1, H0135: 1, H0413: 1, H0059: 1, H0529: 1, L0770: 1, L0769: 1, L0630: 1, L0521: 1, L0662: 1, L0775: 1, L0776: 1, L0493: 1, H0684: 1, S0328: 1, S0044: 1, L0777: 1, L0752: 1, L0755: 1, L0758: 1 and S0242: 1.	98-116, 136-152

172	HTHCV59	738569	59 - 373	182	1587		AR089: 17, AR060: 15, AR096: 15, AR055: 13, AR039: 13, AR033: 12, AR104: 11, AR052: 10, AR053: 8, AR061: 7 and H0063: 1.	83-102, 10-26
173	HCHCI12	738911	129 - 656	183	1588	Ser-22 to His-33, Pro-85 to Asn-94, Phe-101 to Gln-108.	AR061: 3, AR052: 2, AR089: 2, AR055: 2, AR033: 2, AR104: 2, AR096: 2, AR060: 1, AR053: 1, AR039: 0 L0742: 4, H0484: 2, L0763: 2, L0758: 2, H0483: 1, H0618: 1, H0047: 1, H0188: 1, S0344: 1, L0637: 1, L0771: 1, L0803: 1, L0628: 1, H0683: 1, H0522: 1 and L0752: 1.	48-64, 121-137
174	IIOEAU34	739003	149 - 526	184	1589	Ala-9 to Leu-16.	AR089: 9, AR060: 8, AR033: 7, AR096: 2, AR053: 1, AR061: 1, AR055: 0, AR052: 0, AR039: 0, AR104: 0 L0809: 3, H0442: 2, S0010: 2, L0794: 2, L0803: 2, S0378: 2, H0341: 1, S0376: 1, H0611: 1, H0486: 1, H0013: 1, H0156: 1, L0021: 1, H0318: 1, H0123:	47-67

| 175 | HFASN59 | 739048 | 185 | 45 - 368 | 1590 | 1, H0024: 1, L0483: 1, H0135: 1, H0163: 1, S0344: 1, L0769: 1, L0773: 1, L0774: 1, L0518: 1, S0126: 1, H0684: 1, S0380: 1, S0454: 1, H0436: 1, L0754: 1, L0747: 1, L0608: 1, S0026: 1, H0667: 1 and H0543: 1. | AR104: 1, AR061: 1, AR060: 0, AR039: 0, AR033: 0, AR089: 0, L0794: 3, L0749: 2, L0731: 2, H0650: 1, S0408: 1, S0300: 1, L0456: 1, L0769: 1, L0637: 1, L0643: 1, L0650: 1, L0659: 1, L0792: 1, L0666: 1, L0438: 1, H0696: 1 and L0747: 1. | | | 71-90, 13-29, 42-58 |
| 176 | HLHCU82 | 739503 | 186 | 152 – 490 | 1591 | Lys-5 to Glu-11, Tyr-17 to Asp-25. | AR055: 6, AR096: 5, AR052: 5, AR060: 4, AR089: 4, AR061: 4, AR053: 4, AR033: 3, AR104: 1, AR039: 0 L0362: 20, L0766: 11, L0754: 10, L0747: 5, L0731: 4, S0003: 3, H0547: 3, S0026: 3, S0212: 2, H0251: 2, H0046: 2, H0031: 1. | 11q13.5 | 133780, 266150, 276903, 276903, 276903 | 61-78 |

177	HSDJN50	740786	187	2615 - 2247	1592	Ala-87 to Ala-97.	Sequence	46-68, 21-42, 66-82,
							2, H0674: 2, L0769: 2, L0663: 2, L0665: 2, H0144: 2, L0438: 2, L0748: 2, L0439: 2, H0445: 2, H0170: 1, H0686: 1, T0049: 1, S0134: 1, H0657: 1, S0001: 1, H0459: 1, S0360: 1, S0410: 1, S0468: 1, H0431: 1, H0497: 1, H0486: 1, S0280: 1, H0196: 1, H0596: 1, H0565: 1, H0571: 1, H0566: 1, H0024: 1, H0275: 1, H0267: 1, S0214: 1, H0615: 1, H0090: 1, H0040: 1, H0634: 1, H0413: 1, S0440: 1, S0208: 1, H0529: 1, L0640: 1, L0770: 1, L0642: 1, L0794: 1, L0649: 1, L0803: 1, L0804: 1, L0650: 1, L0774: 1, L0775: 1, L0805: 1, L0661: 1, L0783: 1, L0809: 1, L0666: 1, L0664: 1, H0519: 1, H0684: 1, H0672: 1, S0406: 1, L0740: 1, L0750: 1, L0779: 1, L0758: 1, S0434: 1, L0589: 1, S0106: 1, H0667: 1 and S0424: 1.	AR096: 9, AR053: 9, AR052: 7, AR089: 6,

| 178 | HMAFM05 | 741055 | 188 | 438 - 803 | 1593 | Ser-23 to Lys-37, Thr-61 to Pro-66. | AR052: 11, AR053: 9, AR033: 7, AR096: 7, AR104: 6, AR089: 6, AR060: 4, AR055: 3, AR061: 2, AR039: 2 S0354: 5, S0426: 5, S0002: 3, S0278: 2, L0375: 2, L0751: 2, L0758: 2, L0539: 1, H0392: 1, H0592: 1, H0318: 1, L0041: 1, H0494: 1, S0144: 1, S0142: 1, S0344: 1, L0803: 1, L0804: 1, L0805: 1, L0776: 1, S0052: 1, S0428: 1, S0053: 1, H0144: 1, S0378: 1. | 89-106, 40-56 |
| | | | | | | | AR104: 4, AR060: 3, AR039: 3, AR055: 3, AR061: 2, AR033: 1 L0005: 4, S0045: 4, S0222: 4, S0028: 4, H0624: 3, S0144: 2, S0260: 2, S0134: 1, S0218: 1, H0381: 1, H0341: 1, S0001: 1, S0282: 1, S0046: 1, L0476: 1, H0191: 1, H0575: 1, S0050: 1, H0048: 1, H0135: 1, S0038: 1, H0100: 1, S0150: 1, L0378: 1, S0052: 1, S0044: 1, S0390: 1 and S0031: 1. | 2-18 |

179	HKAAA18	741128	189	139 - 555	1594	Lys-5 to Glu-11, Tyr-17 to Asp-25, Lys-39 to Ile-45, Val-81 to Leu-93, Thr-100 to Phe-106, Thr-117 to Glu-126, Thr-128 to Gln-133.	H0555: 1 and H0478: 1. AR053: 24, AR052: 19, AR096: 7, AR089: 3, AR033: 2, AR039: 2, AR104: 2, AR060: 2, AR055: 1, AR061: 1 H0486: 1 and H0494: 1.	11q13.5	133780, 266150, 276903, 276903, 276903
									61-78
180	HISCL61	741659	190	19 - 483	1595	Leu-44 to Glu-49, Tyr-61 to Cys-68, Glu-94 to Ile-108.	AR096: 2, AR060: 1, AR089: 1, AR104: 1, AR033: 1, AR055: 0, AR061: 0, AR052: 0, AR039: 0, AR053: 0 L0766: 2, L0776: 2, L0759: 2, T0002: 1, H0329: 1, H0604: 1, H0424: 1, S0144: 1, L0800: 1, L0644: 1, L0662: 1, L0804: 1, L0775: 1, L0806: 1, L0805: 1, L0659: 1, H0593: 1, H0539: 1, H0521: 1, L0786: 1, L0731: 1 and L0501: 1.	19	73-89, 109-125
181	HAGDA61	741921	191	112 - 492	1596	Pro-6 to Thr-21, Asp-47 to Ile-57, Lys-76 to Tyr-90.	AR104: 74, AR096: 39, AR089: 34, AR039: 33, AR033: 24, AR052: 23, AR060: 23, AR053: 20, AR055: 11, AR061: 6 S0010: 1, L0740: 1 and L0752: 1.		99-119

182	HFIIO11	742518	192	535 - 209	1597	Met-1 to Gly-7, Ala-16 to Gln-21, Ser-35 to Gly-41, Thr-43 to Asn-52.	AR096: 5, AR089: 3, AR060: 3, AR033: 2, AR104: 2, AR052: 1, AR039: 1, AR053: 1, AR055: 1, AR061: 1 H0038: 3, L0439: 3, H0039: 2, L0740: 2, L0747: 2, L0756: 2, H0592: 1, H0318: 1, H0031: 1, H0644: 1, L0766: 1, L0774: 1, L0666: 1, L0438: 1, L0754: 1, L0779: 1, L0758: 1, S0192: 1, S0194: 1 and H0506: 1.	62-78, 92-108
183	HUSGB32	742690	193	46 - 840	1598	Glu-4 to Gly-12, Gly-19 to Ser-37, Gln-49 to Asn-54, Glu-102 to Cys-108, Leu-116 to Asn-125.	AR033: 9, AR089: 4, AR052: 3, AR096: 3, AR053: 3, AR055: 3, AR060: 3, AR104: 2, AR061: 1, AR039: 1 L0748: 2, H0581: 1, H0046: 1, L0483: 1, H0634: 1, H0412: 1, S0150: 1, H0520: 1, L0612: 1 and H0543: 1.	54-71, 133-149
184	HTXED15	743383	194	101 - 442	1599	Ser-43 to Val-53.	AR033: 7, AR060: 5, AR089: 5, AR061: 2, AR039: 2, AR096: 1, AR055: 0, AR053: 0, AR052: 0	55-71, 24-40, 74-90

185	HCFMF12	743426	195	25 - 333	1600	AR052: 3, AR089: 2, AR033: 2, AR053: 2, AR060: 2, AR055: 1, AR096: 1, AR104: 1, AR061: 1, AR039: 0 H0521: 2, H0305: 1, H0046: 1, S0144: 1, S0002: 1, H0478: 1, L0748: 1, H0543: 1, H0423: 1 and H0422: 1.	H0265: 1, H0556: 1, H0026: 1, L0522: 1, L0665: 1 and H0445: 1.			75-91
186	HSSJG62	744278	196	55 - 573	1601	AR055: 20, AR039: 13, AR052: 13, AR053: 11, AR061: 11, AR096: 10, AR033: 10, AR089: 9, AR060: 9, AR104: 7 H0428: 2, H0135: 2, L0794: 2, L0779: 2, L0770: 1, L0766: 1, L0774: 1, L0789: 1, L0792: 1, L0439: 1, L0731: 1 and L0757: 1.		19p12	601843	128-146, 21-37, 63-79
187	HFIHF63	744330	197	201 - 611	1602	AR053: 1, AR096: 1, AR055: 1, AR052: 1, AR089: 1, AR033: 1, AR061: 1, AR060: 1, AR104: 0, AR039: 0 L0747: 5, L0809: 3,	Gly-14 to Gly-23.	19p13.3	108725, 120700, 133171, 136836, 145981, 147141,	96-124

188	IIMDAG54	744453	198	759 - 1223	1603	Tyr-9 to Asn-15, Arg-57 to Trp-64, Pro-68 to Ala-78, Gln-83 to Asp-88, Pro-106 to Ser-112.	AR033: 1, AR089: 0, AR061: 0, AR096: 0, AR060: 0, AR053: 0, AR104: 0, AR052: 0, AR055: 0, AR039: 0 L0372: 2, L0748: 2, L0439: 2, L0751: 2, L0754: 2, L0750: 2, L0756: 2, L0779: 2, L0755: 2, H0170: 1, S0212: 1, S0282: 1, H0346: 1, S0376: 1, S0360: 1, T0040: 1, H0253: 1, H0424: 1, H0553: 1, H0674: 1, L0772: 1, L0764: 1, L0771: 1, L0803: 1, L0776: 1, L0659: 1, H0144: 1, S0374: 1 and L0747: 1.	L0731: 3, L0759: 3, L0777: 2, L0752: 2, L0021: 1, S0250: 1, H0252: 1, L0770: 1, L0774: 1, L0792: 1, L0793: 1, L0750: 1, L0779: 1, L0758: 1 and S0194: 1.	115-131	164953, 188070, 600957, 601238, 601846, 602216, 602477
189	HCHMI51	744616	199	234 - 584	1604		AR096: 1, AR089: 1, AR033: 1, AR039: 1, AR061: 0, AR053: 0, AR104: 0, AR060: 0, AR052: 0, AR055: 0		71-99, 22-50	

H0046: 57, L0665: 23,
L0666: 15, L0777: 13,
L0752: 11, L0471: 10,
L0749: 9, L0759: 9, L0439:
8, L0747: 8, H0648: 7,
L0753: 7, L0776: 6, L0664:
6, H0435: 6, L0750: 6,
L0757: 6, L0593: 6, S0358:
5, L0769: 5, L0768: 5,
L0375: 5, H0547: 5, L0742:
5, L0592: 5, L0595: 5,
L0455: 4, L0770: 4, L0662:
4, L0663: 4, L0758: 4,
L0590: 4, L0608: 4, S0026:
4, S0424: 4, H0624: 3,
H0556: 3, H0013: 3, H0083:
3, H0529: 3, L0774: 3,
L0657: 3, L0659: 3, S0126:
3, H0684: 3, H0659: 3,
L0740: 3, L0755: 3, L0588:
3, L0591: 3, H0484: 2,
L0717: 2, H0550: 2, H0497:
2, H0333: 2, H0615: 2,
H0428: 2, H0068: 2, H0135:
2, H0038: 2, H0040: 2,
S0422: 2, L0638: 2, L0667:
2, L0372: 2, L0771: 2,
L0648: 2, L0363: 2, L0767:
2, L0388: 2, L0775: 2,
L0809: 2, S0374: 2, H0520:

2, H0519: 2, S0152: 2,
H0555: 2, S0027: 2, L0748:
2, L0745: 2, S0436: 2,
L0599: 2, L0362: 2, H0506:
2, H0170: 1, H0171: 1,
S0342: 1, S0430: 1, S0400:
1, H0661: 1, H0663: 1,
H0664: 1, H0450: 1, S0356:
1, S0376: 1, S0360: 1,
H0351: 1, H0411: 1, H0431:
1, H0370: 1, H0415: 1,
T0040: 1, L0021: 1, H0599:
1, H0575: 1, S0346: 1,
S0049: 1, H0052: 1, H0251:
1, H0050: 1, H0012: 1,
H0024: 1, H0057: 1, H0373:
1, L0163: 1, S0025: 1,
H0188: 1, H0328: 1, T0006:
1, H0553: 1, H0628: 1,
H0316: 1, H0090: 1, H0591:
1, H0551: 1, T0067: 1,
H0264: 1, H0412: 1, L0351:
1, L0564: 1, H0625: 1,
S0440: 1, H0509: 1, H0647:
1, H0652: 1, H0538: 1,
L0369: 1, L0520: 1, L0631:
1, L0796: 1, L0641: 1,
L0764: 1, L0389: 1, L0803:
1, L0378: 1, L0806: 1,
L0805: 1, L0652: 1, L0654:

190	HAHEA63	744726	200	220 - 531	1605		1, L0540: 1, L0383: 1, L0790: 1, L4508: 1, H0658: 1, H0660: 1, H0672: 1, H0651: 1, S0330: 1, S0378: 1, S0332: 1, S0013: 1, H0696: 1, S0392: 1, H0627: 1, H0445: 1, H0667: 1, H0542: 1, S0452: 1, L0600: 1 and H0352: 1.		84-100
191	HAJAN63	744831	201	108 - 500	1606	Ser-21 to Trp-28, Arg-63 to Val-68.	AR033: 38, AR089: 32, AR052: 29, AR104: 27, AR096: 27, AR060: 22, AR053: 22, AR055: 11, AR039: 11, AR061: 9 H0599: 5, H0575: 3, L0438: 2, S0212: 1, S0420: 1, S0356: 1, H0393: 1, H0549: 1, H0391: 1, H0036: 1, T0071: 1, H0581: 1, S0051: 1, H0266: 1, H0271: 1, H0292: 1, H0272: 1, L0435: 1, H0280: 1, H0561: 1, H0509: 1, L0762: 1, H0547: 1, H0435: 1, H0521: 1, S0028: 1, L0439: 1, H0542: 1, H0543: 1 and H0423: 1.	AR039: 12, AR096: 7, AR104: 7, AR033: 6,	76-107, 1-17, 114-

192	HSRFP52	745408	202	368 - 1276	1607	Pro-27 to Arg-42, Asp-94 to Ser-104, Arg-114 to Asn-120, Ala-127 to Ala-138, Ala-156 to Pro-163, Gln-231 to Leu-238.	AR060: 5, AR089: 4, AR052: 4, AR053: 4, AR055: 4, AR061: 3	H0616: 3, L0748: 3, L0756: 3, H0586: 2, H0356: 2, L0766: 2, L0803: 2, H0672: 2, L0439: 2, L0758: 2, L0465: 2, H0497: 1, H0013: 1, H0046: 1, L0471: 1, H0024: 1, S0214: 1, H0124: 1, H0561: 1, L0774: 1, L0664: 1, L0438: 1, H0520: 1, H0519: 1, H0658: 1, I10539: 1, H0631: 1, L0740: 1, L0747: 1, L0755: 1, L0595: 1, S0192: 1, S0276: 1 and H0352: 1.	AR055: 10, AR060: 5, AR053: 5, AR052: 5, AR033: 5, AR061: 4, AR089: 4, AR096: 4, AR104: 2, AR039: 0	S0022: 7, L0805: 3, H0556: 2, H0046: 2, L0764: 2, L0662: 2, S0126: 2, L0748: 2, H0305: 1, H0013: 1, H0050: 1, H0615: 1, H0039: 1, H0040: 1, H0087: 1, T0042: 1, L0643: 1, L0794: 1, L0803: 1, L0804:	130	256-273, 42-58

| 193 | HCHOH38 | 746390 | 203 | 140 - 904 | 1608 | Gly-7 to Lys-16, Gly-84 to Pro-90, Pro-100 to Ser-106. | AR104: 10, AR033: 7, AR096: 5, AR089: 4, AR052: 3, AR053: 3, AR039: 3, AR060: 3, AR055: 1, AR061: 1 S0001: 4, L0439: 4, H0617: 3, L0776: 3, L0438: 3, L0748: 3, H0484: 2, S0420: 2, S0222: 2, H0274: 2, H0181: 2, H0529: 2, L0517: 2, L0789: 2, H0659: 2, L0751: 2, L0596: 2, L0361: 2, H0295: 1, T0049: 1, H0656: 1, S0418: 1, L0005: 1, S0476: 1, H0645: 1, H0333: 1, L0021: 1, H0036: 1, H0052: 1, H0597: 1, H0545: 1, H0009: 1, H0178: 1, H0081: 1, S0388: 1, H0673: 1, S0036: 1, H0038: 1, H0494: 1, L0769: 1, L0796: 1, L0372: 1, L0800: 1, L0643: 1, L0645: 1, L0521: 1, L0768: 1, L0364: 1, L0803: 1, L0806: 1, L0805: 1, L0792: 1, | 1, L0807: 1, L0809: 1, L0666: 1, H0144: 1, H0547: 1, L0749: 1, L0779: 1 and L0758: 1. | 177-195, 53-69, 150-166, 16-32 |

194	HMSBS61	746583	204	783 - 1	1609		201-217
					Thr-17 to Glu-25, Glu-61 to Val-66, Leu-122 to Cys-129, Glu-139 to Asp-148, Pro-169 to Val-179, Lys-183 to Gly-193.	AR052: 11, AR053: 10, AR096: 9, AR055: 7, AR033: 6, AR060: 5, AR039: 5, AR061: 4, AR089: 4, AR104: 4 L0748: 14, H0457: 9, L0766: 8, H0543: 7, L0731: 6, L0439: 5, L0770: 4, L0747: 4, H0542: 4, S0002: 3, L0777: 3, H0445: 3, S0434: 3, S0192: 3, H0423: 3, S0114: 2, H0575: 2, S0010: 2, L0667: 2, L0646: 2, L0775: 2, L0655: 2, H0436: 2, L0749: 2, L0594: 2, H0422: 2, S0342: 1, S0134: 1, H0583: 1, S0212: 1, S0376: 1, S0045: 1, S0046: 1, S0476: 1, S0222: 1, H0486: 1, H0635: 1, H0156: 1, S0346: 1, S0474: 1, H0263: 1, H0572: 1, L0793: 1, S0374: 1, H0547: 1, S0328: 1, H0696: 1, S0406: 1, S0028: 1, S0032: 1, L0742: 1, L0754: 1, L0779: 1, L0777: 1, L0780: 1, L0757: 1, L0592: 1, L0595: 1, S0026: 1 and H0423: 1.	

143

195	HNFHK32	746584	205	195 - 908	1610			180-197
					Met-1 to Ser-7.	AR055: 9, AR060: 5, AR052: 5, AR061: 4, AR033: 4, AR096: 3, AR053: 3, AR089: 3, AR104: 1, AR039: 1 H0521: 3, L0731: 3, H0591: 2, H0436: 2, H0422: 2, H0170: 1, S0001: 1, H0459: 1, S0046: 1, S0476: 1, H0610: 1, H0013: 1, H0635: 1, H0271: 1, H0622: 1, H0560: 1, H0699: 1, S0152: 1, L0747: 1, S0434:	H0050: 1, H0687: 1, S0214: 1, L0483: 1, H0032: 1, S0364: 1, L0455: 1, H0708: 1, H0591: 1, H0038: 1, H0264: 1, H0641: 1, H0647: 1, H0529: 1, L0761: 1, L0771: 1, L0662: 1, L0803: 1, L0650: 1, L0774: 1, L0805: 1, L0776: 1, L0659: 1, L0540: 1, L0783: 1, L0789: 1, L0790: 1, L0793: 1, L0665: 1, H0144: 1, H0547: 1, H0672: 1, H0539: 1, S0152: 1, L0750: 1, L0757: 1, L0758: 1, S0308: 1, S0011: 1, S0242: 1 and H0721: 1.	

No.	Clone				SEQ ID	Description	AR	Residues
196	HTPCT63	747208	206	53 - 556	1611	Tyr-14 to Glu-19, Lys-48 to Asp-91.	1, L0601: 1, H0542: 1 and H0543: 1. AR053: 21, AR052: 15, AR096: 13, AR089: 12, AR060: 10, AR055: 9, AR033: 9, AR104: 7, AR061: 6, AR039: 6 H0486: 2, L0747: 2, S0298: 1, H0392: 1, T0010: 1, H0039: 1, H0529: 1, L0766: 1, L0438: 1, L0731: 1, L0591: 1 and H0543: 1.	106-122
197	HE8NL29	750243	207	470 - 72	1612		AR089: 1, AR096: 0, AR060: 0, AR052: 0, AR104: 0, AR061: 0, AR053: 0, AR033: 0, AR039: 0 H0013: 2 and S0218: 1.	109-125, 6-22
198	HTTFM66	750750	208	117 - 434	1613		AR055: 8, AR053: 6, AR052: 6, AR060: 5, AR096: 4, AR061: 4, AR033: 4, AR039: 3, AR089: 3, AR104: 3 H0040: 2	62-96, 17-48, 89-105
199	HE9EM20	751048	209	2 - 751	1614	Cys-175 to Val-181, Lys-184 to Arg-204, Gln-218 to Glu-227, Lys-233 to Phe-242.	AR055: 12, AR060: 12, AR061: 9, AR033: 8, AR104: 8, AR096: 7, AR089: 6, AR053: 5, AR052: 4, AR039: 4	112-128, 56-72

200	HISCQ44	751286	210	179 - 832	1615		193-218, 30-46
					Lys-12 to Glu-27, Pro-48 to Lys-56.	L0803: 8, L0748: 7, L0759: 5, L0588: 3, H0489: 2, L0105: 2, L0659: 2, L0666: 2, H0144: 2, H0520: 2, H0547: 2, L0439: 2, L0754: 2, L0747: 2, L0756: 2, L0752: 2, S0360: 1, L0717: 1, H0611: 1, H0333: 1, H0013: 1, H0597: 1, H0046: 1, T0010: 1, H0428: 1, H0039: 1, T0023: 1, H0031: 1, H0553: 1, H0644: 1, S0366: 1, H0038: 1, H0268: 1, H0652: 1, L0372: 1, L0646: 1, L0662: 1, L0804: 1, L0774: 1, L0775: 1, L0651: 1, L0512: 1, L0740: 1, L0749: 1, L0750: 1, L0779: 1, L0731: 1, S0434: 1, L0596: 1 and L0604: 1. AR096: 12, AR089: 9, AR033: 5, AR052: 5, AR039: 5, AR060: 4, AR104: 3, AR053: 2, AR061: 1, AR055: 1 S0410: 4, H0660: 4, S0354: 2, H0370: 2, L0662: 2, L0438: 2, L0748: 2, H0664: 1, S0360: 1, H0208:	

146

201	HTGAU79	751677	211	203 - 961	1616	Ala-10 to Glu-18, Arg-26 to Arg-31, Phe-48 to Gln-53, Gly-77 to Glu-84, Met-130 to Gly-138, Tyr-225 to Ala-232.	AR055: 8, AR053: 6, AR052: 6, AR033: 6, AR060: 5, AR089: 5, AR096: 4, AR061: 4, AR039: 3, AR104: 3 H0551: 3, H0529: 3, L0770: 3, L0769: 3, L0794: 3, L0758: 3, S0418: 2, L0773: 2, L0521: 2, H0701: 2, S0126: 2, L0747: 2, L0731: 2, L0759: 2, L0589: 2, L0601: 2, H0624: 1, H0149: 1, H0556: 1, H0295: 1, S0134: 1, H0583: 1, H0661: 1, S0476: 1, H0592: 1, H0013: 1, H0635: 1, H0581: 1, S0250: 1, H0212: 1, H0412: 1, S0438: 1, S0440: 1, S0144: 1, L0763: 1, L0645: 1, L0764: 1, L0766: 1, L0775: 1, L0783: 1, L0665: 1, H0519: 1,	1, H0574: 1, H0575: 1, H0590: 1, L0040: 1, H0051: 1, H0169: 1, H0674: 1, H0412: 1, L0645: 1, L0767: 1, L0666: 1, L0665: 1, H0547: 1, H0539: 1, H0478: 1, L0611: 1, L0741: 1, L0750: 1 and S0434: 1.	175-192, 94-110

202	HETAJ12	751735	212	17 - 463	1617	Pro-26 to Pro-31, Pro-119 to Asp-124, Gln-132 to Leu-140, Arg-143 to Pro-149.	H0435: 1, H0672: 1, H0436: 1, S3014: 1, S0028: 1, L0750: 1, L0777: 1, S0436: 1, L0366: 1, H0667: 1 and H0423: 1. AR055: 3, AR033: 2, AR104: 2, AR060: 2, AR053: 2, AR039: 2, AR089: 1, AR061: 1, AR096: 1, AR052: 0 H0046: 2, H0431: 1, S0428: 1 and H0660: 1.	69-103, 90-106, 1-17
203	HDABX16	752630	213	64 - 456	1618		AR096: 8, AR052: 7, AR039: 6, AR053: 6, AR033: 5, AR089: 4, AR055: 4, AR104: 3, AR061: 3, AR060: 3 H0618: 9, L0751: 7, L0754: 6, L0758: 6, H0253: 5, L0748: 5, L0439: 5, H0580: 3, H0052: 3, L0770: 3, L0663: 3, H0556: 2, S0418: 2, H0733: 2, H0351: 2, H0706: 2, H0567: 2, H0625: 2, S0144: 2, S0142: 2, L0659: 2, L0543: 2, L5623: 2, L0749: 2, S0436: 2, H0423: 2, H0381: 1, S0212: 1, H0254: 1, H0663:	57-76, 114-130

204	HFEBM11	753105	214	27 - 458	1619	Asp-20 to Glu-26,	5q31.1	131400,	110-136
						AR033: 12, AR055: 11, 1, H0638: 1, S0045: 1, S0046: 1, S0476: 1, S6022: 1, H0549: 1, H0550: 1, S0222: 1, H0370: 1, H0497: 1, H0574: 1, L0622: 1, L0623: 1, H0101: 1, H0427: 1, S0280: 1, H0122: 1, H0194: 1, H0596: 1, H0570: 1, H0081: 1, H0620: 1, H0014: 1, H0083: 1, H0355: 1, H0510: 1, H0424: 1, H0030: 1, H0553: 1, H0628: 1, S0364: 1, S0366: 1, H0038: 1, H0551: 1, H0100: 1, L0351: 1, H0494: 1, S0438: 1, H0633: 1, S0422: 1, L0371: 1, L0769: 1, L0639: 1, L0772: 1, L0648: 1, L0497: 1, L0375: 1, L0511: 1, L0666: 1, H0144: 1, H0520: 1, H0593: 1, H0682: 1, H0670: 1, H0672: 1, H0539: 1, H0521: 1, S0044: 1, H0555: 1, H0626: 1, H0732: 1, S3012: 1, S3014: 1, S0027: 1, S0028: 1, L0779: 1, L0584: 1, L0608: 1, L0593: 1, H0667: 1 and H0542: 1.			

						Asp-48 to Tyr-57, Asn-59 to Gly-66, Ala-69 to Gly-76, Ser-91 to Asn-97.	AR089: 10, AR061: 9, AR053: 8, AR060: 8, AR096: 4, AR039: 3, AR104: 0 H0081: 1, H0509: 1 and S0330: 1.	147061, 147575, 147575, 147575, 153455, 159000, 181460, 600807, 601596, 602089	76-93, 38-54
205	HHGBS74	753235	215	979 - 1584	1620	Ser-26 to Asn-35, Gly-95 to Pro-100, Arg-115 to Gln-126, Arg-132 to Asp-137, Val-183 to Ser-188.	AR052: 297, AR053: 285, AR096: 212, AR039: 173, AR089: 146, AR055: 106, AR104: 92, AR060: 90, AR061: 69, AR033: 67 H0169: 4, L0529: 2, H0624: 1, H0341: 1, H0333: 1, H0013: 1, H0266: 1, H0674: 1, H0269: 1, S0440: 1, L0770: 1, L0809: 1, L0780: 1 and L0758: 1.		
206	HTAAT39	753289	216	456 - 959	1621	Ser-50 to Thr-55, Ser-67 to Asp-72, Ala-105 to Ser-110, Gln-139 to Lys-149, Arg-152 to Ser-166.	AR104:1068, AR061: 633, AR060: 627, AR055: 507, AR033: 469, AR089: 444, AR052: 279, AR039: 276, AR096: 237, AR053: 231 H0069: 5 and H0634: 1.		108-139
207	HHSFO30	754184	217	9 - 317	1622	Gly-15 to His-27, Pro-35 to Ser-44.	AR104: 18, AR033: 16, AR055: 9, AR060: 7,		46-63

No.	Clone					Feature	Variant data (col 1)	Variant data (col 2)	Region
208	HTAFE69	754529	218	34 - 366	1623	Lys-11 to Glu-29.	AR061: 7, AR052: 6, AR089: 6, AR053: 4, AR096: 4, AR039: 4, L0471: 1, S0388: 1, H0633: 1 and L0591: 1.	AR061: 6, AR096: 6, AR060: 6, AR089: 6, AR039: 6, AR033: 5, AR052: 5, AR055: 5, AR053: 4, AR104: 4, H0069: 3, L0794: 1, L0803: 1 and L0758: 1.	55-74, 88-104
209	HMSCM47	756579	219	218 - 1390	1624	Asp-44 to His-54, Gly-92 to Lys-98, Gln-110 to Gly-115, Tyr-135 to Gly-140, Gly-162 to Ala-167.		AR053: 11, AR096: 9, AR052: 8, AR089: 6, AR104: 6, AR060: 5, AR055: 4, AR039: 4, AR033: 4, AR061: 3 H0521: 2, H0170: 1, S0134: 1, H0662: 1, S0354: 1, H0580: 1, H0619: 1, S0278: 1, H0574: 1, H0599: 1, H0590: 1, H0596: 1, L0471: 1, H0024: 1, H0014: 1, L0163: 1, H0644: 1, H0551: 1, S0002: 1, H0658: 1, L0602: 1, H0522: 1, S3014: 1, L0731: 1, L0601: 1 and L0366: 1.	324-340, 235-251, 64-80, 344-360
210	HETLM70	756676	220	337 -	1625			AR055: 10, AR089: 8,	100-130,

| 211 | HLYEN32 | 756950 | 221 | 21 | 407 | 1626 | Leu-64 to Ala 75. | AR033: 8, AR053: 8, AR052: 7, AR061: 7, AR060: 5, AR039: 5, AR096: 4, AR104: 3 L0803: 3, S0406: 3, H0356: 2, L0800: 2, L0517: 2, L0666: 2, L0751: 2, L0779: 2, S0434: 2, L0601: 2, H0661: 1, S0442: 1, S0358: 1, S0444: 1, H0046: 1, H0150: 1, H0188: 1, H0617: 1, H0383: 1, H0673: 1, H0674: 1, L0662: 1, L0774: 1, L0775: 1, L0805: 1, L0657: 1, L0809: 1, L0544: 1, L0793: 1, L0665: 1, H0689: 1, H0683: 1, H0658: 1, H0648: 1, S0328: 1, S0330: 1, S0380: 1, H0696: 1, S0146: 1, L0754: 1, L0752: 1 and H0506: 1. | 1080 | 1-21, 161-192, 63-80, 44-60 |

AR089: 5, AR052: 5, AR033: 4, AR053: 4, AR096: 3, AR061: 3, AR104: 2, AR060: 2, AR055: 2, AR039: 2 H0556: 4, H0169: 3, L0766: 3, L0742: 3, L0747: 3, S0360: 2, S0046: 2, H0587: 2, L0483: 2, T0006:

111-129, 95-111

212	HHFHU45	757207	222	234 - 659	1627	Gly-9 to Leu-25.		83-99, 111-127
							2, H0488: 2, H0059: 2, L0646: 2, S0404: 2, L0748: 2, L0439: 2, L0751: 2, H0542: 2, H0265: 1, S0040: 1, H0341: 1, S0444: 1, S0045: 1, S0132: 1, S0222: 1, H0438: 1, S0280: 1, H0599: 1, S0346: 1, H0052: 1, H0014: 1, L0163: 1, H0083: 1, H0687: 1, S0250: 1, H0328: 1, H0039: 1, L0455: 1, H0040: 1, H0551: 1, H0623: 1, H0633: 1, H0647: 1, S0002: 1, L0761: 1, L0771: 1, L0662: 1, L0659: 1, L0787: 1, L0793: 1, L0666: 1, L0664: 1, L0665: 1, H0144: 1, H0701: 1, H0520: 1, H0519: 1, S0126: 1, H0682: 1, H0672: 1, H0539: 1, S0380: 1, H0518: 1, H0696: 1, H0436: 1, S0028: 1, L0754: 1, L0750: 1, L0756: 1, L0752: 1, L0757: 1, L0758: 1, L0759: 1, H0445: 1, S0436: 1 and H0543: 1.	
						AR033: 2, AR089: 2, AR061: 1, AR060: 1, AR096: 0, AR039: 0.		

213	HHIFHR59	757351	223	311 - 631	1628				79-97
						AR053: 0, AR055: 0 L0794: 6, L0758: 6, L0805: 4, L0748: 4, L0731: 4, L0806: 3, L0809: 3, L0750: 3, L0752: 3, L0759: 3, H0484: 2, H0486: 2, H0457: 2, H0150: 2, L0471: 2, H0620: 2, H0181: 2, S0002: 2, L0517: 2, L0666: 2, L0757: 2, S0116: 1, S0476: 1, S0278: 1, H0549: 1, H0013: 1, L0738: 1, H0050: 1, H0012: 1, H0622: 1, H0087: 1, T0067: 1, S0344: 1, L0763: 1, L0769: 1, L0800: 1, L0768: 1, L0803: 1, L0650: 1, L0775: 1, L0776: 1, L0655: 1, L0657: 1, L0658: 1, L0636: 1, L0384: 1, H0144: 1, S0374: 1, H0547: 1, H0696: 1, L0439: 1, L0751: 1, L0754: 1 and L0753: 1.			AR053: 9, AR055: 6, AR089: 5, AR060: 4, AR052: 4, AR096: 4, AR033: 4, AR061: 4, AR104: 0 H0050: 2, H0717: 1, S0420: 1, S0442: 1, H0253:

| 214 | HDPPA45 | 757472 | 224 | 148 - 891 | 1629 | Ser-63 to Glu-72, Asn-123 to Thr-130, Pro-209 to Pro-215. | 1, H0052: 1, H0135: 1, H0063: 1, H0494: 1, L0794: 1, L0649: 1, S0037: 1, L0439: 1, L0747: 1, S0434: 1 and H0506: 1. AR061: 1, AR096: 1, AR053: 0, AR089: 0, AR033: 0, AR055: 0, AR039: 0, AR060: 0, AR052: 0, AR104: 0 H0031: 3, L0800: 3, L0794: 3, L0666: 2, L0751: 2, H0265: 1, S0376: 1, H0559: 1, H0486: 1, H0156: 1, L0021: 1, H0599: 1, S0049: 1, H0545: 1, H0213: 1, H0059: 1, L0761: 1, L0649: 1, L0803: 1, L0655: 1, L4507: 1, H0723: 1, H0593: 1, H0539: 1, H0522: 1, L0756: 1, L0779: 1, L0755: 1, L0096: 1 and H0506: 1. | 156-172, 186-204, 85-101 |
| 215 | HMAGC74 | 757601 | 225 | 87 - 437 | 1630 | | AR053: 9, AR052: 8, AR089: 6, AR055: 5, AR033: 5, AR096: 4, AR060: 3, AR061: 3, AR039: 2, AR104: 1 H0638: 5, L0761: 4, | 59-76, 26-42 |

H0556: 3, S0278: 2, H0013: 2, H0545: 2, H0622: 2, S0344: 2, S0002: 2, L0770: 2, L0769: 2, L0803: 2, L0774: 2, L0805: 2, L0789: 2, H0547: 2, H0521: 2, H0522: 2, H0187: 2, L0439: 2, L0740: 2, L0749: 2, L0758: 2, L0592: 2, H0159: 1, S0040: 1, S0114: 1, H0484: 1, H0255: 1, S0358: 1, H0619: 1, H0550: 1, H0559: 1, H0575: 1, H0618: 1, S0010: 1, H0052: 1, H0544: 1, H0546: 1, H0051: 1, H0252: 1, L0483: 1, H0030: 1, H0124: 1, H0135: 1, H0087: 1, L0351: 1, H0494: 1, H0561: 1, S0448: 1, H0641: 1, H0538: 1, L0646: 1, L0800: 1, L0642: 1, L0773: 1, L0794: 1, L0804: 1, L0775: 1, L0784: 1, L0628: 1, L0659: 1, L0666: 1, L0664: 1, L0665: 1, H0144: 1, H0689: 1, H0682: 1, L0743: 1, L0748: 1, L0745: 1, L0759: 1, L0601: 1, S0192: 1 and L0698: 1.

| 216 | HHFFR79 | 759851 | 226 | 37 | 813 | 1631 | Ser-51 to Phe-57. | AR053: 4, AR052: 4, AR055: 4, AR096: 3, AR089: 3, AR033: 3, AR060: 3, AR061: 2, AR104: 2, AR039: 0 H0657: 2, H0485: 2, L0163: 2, H0356: 2, H0488: 2, L0763: 2, L0637: 2, L0646: 2, L0766: 2, L0754: 2, L0756: 2, L0591: 2, T0002: 1, H0497: 1, H0036: 1, H0590: 1, H0050: 1, H0071: 1, H0266: 1, S0003: 1, H0644: 1, L0142: 1, H0628: 1, S0438: 1, H0509: 1, S0422: 1, L0662: 1, L0794: 1, L0655: 1, L0657: 1, L0382: 1, L0665: 1, H0682: 1, H0659: 1, S0378: 1, S0146: 1, S0406: 1, L0779: 1, L0596: 1, S0106: 1, S0011: 1, S0242: 1, H0543: 1 and S0424: 1. | 238-254 |
| 217 | HMGBP83 | 759888 | 227 | 162 - 1289 | 1632 | Lys-7 to Pro-14. | AR055: 6, AR060: 4, AR061: 3, AR089: 3, AR033: 3, AR052: 2, AR053: 2, AR096: 2, AR104: 2, AR039: 1 S0376: 1, H0580: 1, H0614: 1, H0284: 1, I10268: | 259-293, 138-159, 36-57, 102-127, 235-252, 70-86, 325-341 |

218	HAUBV24	760121	228	179 - 574	1633	Phe-60 to Gly-67.	1, H0412: 1, H0623: 1, T0042: 1, S0126: 1, H0539: 1, H0521: 1 and L0779: 1. AR061: 6, AR055: 4, AR060: 3, AR033: 3, AR039: 3, AR052: 3, AR089: 3, AR096: 2, AR053: 1, AR104: 1 L0749: 5, L0752: 5, L0748: 4, H0510: 2, S0440: 2, L0800: 2, S0436: 2, H0294: 1, H0393: 1, L0803: 1, L0774: 1, L0383: 1, L0789: 1 and L0779: 1.		7-37, 31-51, 67-90, 105-121
219	HWBAQ71	760146	229	90 - 392	1634		AR039: 6, AR053: 4, AR089: 3, AR104: 3, AR096: 3, AR052: 3, AR033: 2, AR055: 2, AR060: 2, AR061: 2 H0580: 1 and L0601: 1.		72-101, 32-53
220	HRACE71	760240	230	146 - 457	1635		AR039: 25, AR096: 18, AR089: 18, AR053: 12, AR060: 11, AR104: 11, AR052: 10, AR033: 10, AR055: 6, AR061: 3 S0050: 1 and H0555: 1.		57-73, 4-20
221	HADGC71	760321	231	20 - 460	1636	Met-1 to Glu-9, Ser-18 to Ile-26.	AR089: 1, AR060: 1, AR033: 1, AR053: 0, AR039: 0, AR096: 0,		103-119

222	HSXFL85	760494	232	69 - 566	1637	Phe-8 to Gly-21.	AR061: 0, AR052: 0, AR104: 0, AR055: 0 H0427: 1 and H0328: 1. AR052: 7, AR096: 6, AR089: 4, AR060: 4, AR053: 4, AR055: 4, AR033: 3, AR104: 2, AR061: 2, AR039: 1 H0251: 5, H0543: 5, H0624: 4, H0170: 4, S0222: 4, H0013: 3, S0003: 3, H0615: 3, H0519: 3, T0049: 2, H0051: 2, H0553: 2, H0131: 2, S0422: 2, S0426: 2, H0659: 2, L0752: 2, S0026: 2, H0171: 1, H0556: 1, H0686: 1, H0650: 1, S0116: 1, H0671: 1, S0376: 1, S0046: 1, H0369: 1, H0497: 1, H0156: 1, H0599: 1, H0042: 1, H0575: 1, S0182: 1, S0049: 1, H0596: 1, H0572: 1, H0015: 1, L0163: 1, S0388: 1, S0051: 1, S6028: 1, H0266: 1, H0328: 1, H0424: 1, H0032: 1, H0673: 1, S0036: 1, H0038: 1, H0040: 1, H0551: 1, T0041: 1, S0210: 1, S0002: 1, H0529: 1, L0763:			82-107

| 223 | HNGDQ71 | 760510 | 233 | 114 - 446 | 1638 | | AR055: 2, AR033: 2, AR060: 2, AR061: 1, AR089: 1, AR096: 1, AR052: 0, AR053: 0, AR039: 0, AR104: 0 S0031: 3, H0624: 1, S6026: 1, S0278: 1, S0222: 1, S0051: 1, H0416: 1, H0644: 1, S0052: 1, S0053: 1, S0028: 1, S0032: 1 and S0260: 1. | 1, L0807: 1, L0517: 1, H0520: 1, H0660: 1, H0672: 1, S0328: 1, H0696: 1, L0741: 1, L0742: 1, L0439: 1, L0756: 1, L0780: 1, L0731: 1, S0434: 1, S0196: 1 and H0422: 1. | 86-105, 40-56 |
| 224 | HTOJT28 | 760822 | 234 | 113 - 550 | 1639 | Trp-30 to Ser-36, Lys-54 to Lys-59, Thr-84 to Asn-89. | AR039: 19, AR053: 9, AR033: 8, AR055: 8, AR096: 7, AR052: 7, AR089: 6, AR060: 6, AR104: 5, AR061: 4 L0740: 8, H0617: 4, L0804: 3, H0068: 2, L0803: 2, H0547: 2, L0747: 2, L0779: 2, H0587: 1, H0581: 1, S0003: 1, H0264: 1, L0649: 1, L0774: 1, L0653: | 127-144 |

| 225 | HSDZF13 | 760890 | 235 | 532 - 924 | 1640 | Gly-8 to Ser-14. | 1, L0655: 1 and L0362: 1. AR061: 9, AR060: 5, AR033: 5, AR052: 5, AR055: 5, AR096: 5, AR104: 5, AR053: 4, AR089: 3, AR039: 0 L0777: 5, S0436: 5, S0116: 3, L0805: 3, L0809: 3, H0696: 3, H0423: 3, S0282: 2, S0354: 2, H0083: 2, H0316: 2, L0763: 2, L0767: 2, L0776: 2, S0406: 2, L0779: 2, S0114: 1, H0657: 1, H0656: 1, S0358: 1, S0444: 1, S0360: 1, H0340: 1, S0046: 1, H0619: 1, H0455: 1, H0333: 1, H0574: 1, H0559: 1, T0109: 1, H0156: 1, L0021: 1, T0074: 1, H0318: 1, S0474: 1, S0049: 1, H0327: 1, H0530: 1, H0615: 1, H0553: 1, H0673: 1, H0708: 1, H0059: 1, L0065: 1, S0438: 1, H0207: 1, S0422: 1, L0520: 1, L0769: 1, L0761: 1, L0521: 1, L0774: 1, L0655: 1, L0659: 1, L0526: 1, L0793: 1, L0666: 1, L0664: 1, H0659: 1, H0518: 1, | 91-109, 115-131 |

| 226 | HTOBII39 | 761762 | 236 | 47 - 919 | 1641 | Ala-14 to Arg-19, Val-23 to Pro-38, Ser-44 to Gln-53, Pro-69 to Thr-80. | AR053: 21, AR052: 19, AR096: 14, AR055: 13, AR089: 13, AR033: 11, AR060: 9, AR061: 8, AR104: 7, AR039: 3 L0766: 7, L0439: 7, L0752: 4, L0731: 4, L0438: 3, L0748: 2, L0753: 2, S0276: 2, S0430: 1. S0212: 1, S0358: 1, H0637: 1, S0222: 1, H0486: 1, H0042: 1, L0040: 1, S0051: 1, S0214: 1, H0634: 1, H0272: 1, H0100: 1, H0625: 1, H0130: 1, L0773: 1, L0783: 1, L0791: 1, H0666: 1, S3012: 1, L0780: 1 and H0542: 1. | S0176: 1, H0478: 1, L0748: 1, L0750: 1, L0755: 1, L0731: 1, L0608: 1, L0362: 1, S0026: 1 and S0242: 1. | 87-103 |
| 227 | HE9RP73 | 761860 | 237 | 105 - 506 | 1642 | Val-24 to Gly-35, Gly-48 to Ser-59, Ser-123 to Arg-134. | AR061: 5, AR053: 3, AR055: 1, AR052: 1, AR033: 1, AR060: 1, AR089: 1, AR096: 0, AR039: 0, AR104: 0 S0114: 1, H0549: 1 and H0144: 1. | | 64-82 |

| 228 | HSXDG07 | 762023 | 238 | 78 - 692 | 1643 | Leu-22 to Asn-32, Leu-34 to Pro-39, Glu-80 to Ser-86. | AR055: 10, AR060: 8, AR052: 7, AR061: 7, AR089: 6, AR053: 5, AR096: 5, AR033: 5, AR104: 4, AR039: 4 L0748: 7, L0439: 4, S0410: 3, L0438: 3, L0756: 3, H0252: 2, L0803: 2, L0666: 2, L0754: 2, H0657: 1, S0360: 1, H0431: 1, H0333: 1, H0014: 1, H0328: 1, L0483: 1, L0142: 1, S0036: 1, H0040: 1, L0598: 1, L0764: 1, L0662: 1, L0794: 1, L0766: 1, L0774: 1, L0653: 1, L0659: 1, L0790: 1, L0352: 1, H0519: 1, L0747: 1, L0749: 1, L0750: 1, L0777: 1, S0192: 1, H0543: 1 and H0423: 1. | | | 111-128, 89-105, 2-18 |
| 229 | HDPHG57 | 764498 | 239 | 80 - 436 | 1644 | Leu-60 to Asp-68, Ile-75 to Val-82. | AR039: 2, AR033: 1, AR089: 1, AR096: 1, AR055: 1, AR060: 0, AR061: 0, AR053: 0 L0759: 6, L0766: 5, H0052: 4, L0770: 4, L0439: 4, L0740: 4, L0747: 4, H0657: 3, S0358: 3, S0003: 3, L0769: 3, L0754: 3, S0376: 2, H0590: 2, H0040: | 6q14 | 136550, 203310, 269920, 602772 | 37-57 |

2, H0616: 2, L0776: 2,
L0665: 2, H0658: 2, H0521:
2, H0522: 2, L0756: 2,
L0755: 2, L0758: 2, H0445:
2, S0242: 2, H0686: 1,
H0717: 1, S6024: 1, S0116:
1, S0282: 1, H0663: 1,
S0360: 1, H0393: 1, S6026:
1, H0351: 1, H0431: 1,
H0438: 1, H0607: 1, H0642:
1, H0632: 1, H0486: 1,
L0021: 1, H0575: 1, H0581:
1, H0597: 1, H0014: 1,
H0071: 1, H0266: 1, H0188:
1, H0622: 1, H0166: 1,
H0169: 1, H0090: 1, H0509:
1, S0142: 1, H0695: 1,
H0529: 1, L0369: 1, L0763:
1, L0772: 1, L0794: 1,
L0649: 1, L0803: 1, L0804:
1, L0775: 1, L0805: 1,
L0653: 1, L0809: 1, L0666:
1, L0663: 1, H0144: 1,
L0565: 1, H0547: 1, S0126:
1, S0328: 1, H0539: 1,
S0152: 1, H0555: 1, H0436:
1, S3014: 1, L0750: 1,
L0752: 1, L0757: 1, L0591:
1, L0592: 1, L0599: 1,
S0196: 1, H0543: 1, H0422:

230	HGBAD15	765442	240	1220 - 267	1645			1 and H0506: 1.	126-142
231	HOEEP07	766074	241	68 -	1646	Asp-3 to Arg-8,	AR096: 18, AR053: 16,	AR096: 1, AR055: 1, AR033: 1, AR089: 1, AR060: 1, AR061: 0, AR052: 0, AR039: 0, AR053: 0, AR104: 0 L0748: 10, L0805: 5, L0750: 3, L0777: 3, H0616: 2, S0422: 2, L0803: 2, L0804: 2, H0520: 2, H0547: 2, H0519: 2, L0744: 2, L0779: 2, L0752: 2, L0731: 2, L0581: 2, S0282: 1, S0360: 1, H0411: 1, H0431: 1, H0042: 1, H0581: 1, H0251: 1, H0596: 1, H0597: 1, H0172: 1, H0123: 1, H0050: 1, H0620: 1, H0014: 1, H0051: 1, L0177: 1, S0003: 1, H0328: 1, H0428: 1, H0553: 1, H0169: 1, H0124: 1, L0378: 1, L0776: 1, L0657: 1, L0791: 1, L0438: 1, H0690: 1, H0521: 1, H0522: 1, L0356: 1, L0439: 1, L0756: 1, L0780: 1, L0753: 1, L0759: 1, S0106: 1 and S0026: 1.	182-199,

1405	Gly-22 to Tyr-30, Gly-117 to Val-123, Glu-256 to Glu-271.	AR052: 13, AR060: 13, AR104: 12, AR061: 12, AR089: 10, AR055: 9, AR033: 8, AR039: 7, L0748: 11, L0766: 6, L0439: 6, L0758: 6, L0757: 5, L0794: 4, L0756: 4, L0755: 4, L0805: 3, L0776: 3, S0212: 2, S0010: 2, L0471: 2, S0003: 2, L0143: 2, L0770: 2, L0769: 2, L0803: 2, S0126: 2, L0740: 2, L0759: 2, L0591: 2, L0608: 2, H0685: 1, H0657: 1, H0656: 1, H0341: 1, H0638: 1, S0358: 1, S0360: 1, S0046: 1, S0222: 1, H0497: 1, H0486: 1, T0109: 1, S0474: 1, H0581: 1, H0544: 1, H0009: 1, H0051: 1, H0594: 1, H0032: 1, H0674: 1, H0124: 1, H0038: 1, H0616: 1, H0551: 1, H0488: 1, L0351: 1, H0560: 1, S0150: 1, S0422: 1, L0763: 1, L0761: 1, L0662: 1, L0809: 1, L0787: 1, L0788: 1, L0789: 1, L0666: 1, L0665: 1, H0547: 1, H0658: 1, H0648: 1, S0378:	32-48

#	Clone	cDNA Clone	SEQ ID NO	NT	SEQ ID NO (aa)	AA features	Library / Tissue	AR codes	Chromosome	OMIM	Range
232	HFIHT50	766558	242	19 - 378	1647	Met-1 to Arg-6.	1, H0522: 1, S0146: 1, L0747: 1, L0750: 1, L0752: 1, L0731: 1, H0445: 1, L0588: 1, S0026: 1, S0192: 1, S0276: 1 and H0008: 1.	AR096: 2, AR055: 1, AR089: 1, AR060: 1, AR061: 0, AR052: 0, AR053: 0, AR039: 0, AR033: 0, AR104: 0 H0265: 2, L0766: 2, H0656: 1, H0341: 1, H0581: 1, H0634: 1 and S0194: 1.			102-118
233	HANGD38	766868	243	905 - 1387	1648	Ser-42 to Arg-47, Thr-115 to Ser-127, Ser-130 to Trp-136.		AR089: 11, AR096: 11, AR060: 7, AR052: 4, AR053: 3, AR033: 3, AR055: 2, AR061: 1, AR104: 1, AR039: 0 H0024: 3, H0622: 3, H0265: 1, S0358: 1, H0486: 1, H0150: 1, H0050: 1, S0316: 1, H0100: 1, H0144: 1, S0328: 1 and L0743: 1.			55-77, 75-91
234	HPMGQ75	767356	244	299 - 832	1649	Asp-9 to Ile-22, Ser-64 to Leu-69, Thr-91 to Ser-100, Lys-162 to Gln-172.		AR055: 11, AR053: 6, AR060: 6, AR096: 6, AR033: 6, AR061: 6, AR052: 4, AR104: 4, AR089: 4, AR039: 3 H0424: 16, S0380: 13,	22q13.2-q13.31	188826, 250100, 250800, 250800	100-120

L0748: 13, L0750: 12,
S0440: 10, S0444: 9, L0755:
9, L0758: 9, S0192: 9,
H0484: 8, S0358: 8, H0545:
8, L0809: 8, L0747: 8,
L0749: 8, S0360: 7, S0410:
7, S0406: 7, L0752: 7,
L0766: 6, S0374: 6, L0751:
6, L0754: 6, H0423: 6,
S0442: 5, H0672: 5, S0378:
5, S0404: 5, L0759: 5,
H0556: 4, S0356: 4, S0376:
4, H0546: 4, H0150: 4,
S0438: 4, L0775: 4, L0776:
4, L0518: 4, S0328: 4,
L0740: 4, S0434: 4, L0599:
4, H0422: 4, H0685: 3,
S0116: 3, H0483: 3, H0638:
3, H0486: 3, H0318: 3,
H0309: 3, H0597: 3, H0617:
3, H0494: 3, S0144: 3,
L0771: 3, L0767: 3, L0768:
3, L0794: 3, L0774: 3,
L0806: 3, L0783: 3, L0528:
3, I10593: 3, S0126: 3,
H0690: 3, H0658: 3, H0670:
3, S0330: 3, H0696: 3,
S0028: 3, L0742: 3, L0439:
3, L0731: 3, L0757: 3,
H0543: 3, H0149: 2, S0218:

2, H0341: 2, H0306: 2,
H0402: 2, S0420: 2, H0722:
2, S0476: 2, H0392: 2,
H0333: 2, H0101: 2, H0581:
2, H0421: 2, H0204: 2,
H0231: 2, H0009: 2, H0023:
2, H0024: 2, H0271: 2,
H0031: 2, H0644: 2, H0166:
2, H0124: 2, H0068: 2,
H0616: 2, H0059: 2, H0560:
2, H0509: 2, S0344: 2,
S0422: 2, L0769: 2, L0764:
2, L0765: 2, L0651: 2,
L0657: 2, H0689: 2, H0684:
2, H0659: 2, H0660: 2,
H0648: 2, H0521: 2, S0044:
2, S0392: 2, L0743: 2,
S0436: 2, L0588: 2, L0590:
2, H0542: 2, S0446: 2,
L0600: 2, H0008: 2, H0624:
1, H0170: 1, H0171: 1,
S0040: 1, S6024: 1, H0295:
1, H0294: 1, S0114: 1,
H0657: 1, H0656: 1, L0760:
1, S0212: 1, H0255: 1,
H0663: 1, S0418: 1, S0354:
1, H0676: 1, S0408: 1,
T0008: 1, H0637: 1, H0730:
1, H0393: 1, S0278: 1,
H0369: 1, S0222: 1, H0370:

1, H0330: 1, H0592: 1,
H0586: 1, H0574: 1, L0622:
1, H0013: 1, H0427: 1,
S0280: 1, H0156: 1, H0575:
1, H0004: 1, H0274: 1,
H0253: 1, T0048: 1, S0474:
1, H0085: 1, H0596: 1,
H0544: 1, H0086: 1, H0123:
1, L0471: 1, H0012: 1,
H0620: 1, H0057: 1, T0010:
1, H0375: 1, H0594: 1,
H0179: 1, H0188: 1, H0687:
1, H0284: 1, H0252: 1,
T0023: 1, S0368: 1, T0006:
1, H0604: 1, H0213: 1,
H0553: 1, L0055: 1, H0032:
1, H0673: 1, H0674: 1,
S0366: 1, S0036: 1, H0163:
1, I10038: 1, H0634: 1,
H0087: 1, T0067: 1, H0264:
1, T0041: 1, H0625: 1,
H0561: 1, S0466: 1, H0131:
1, S0150: 1, H0633: 1,
S0472: 1, H0529: 1, L0762:
1, L0763: 1, L0770: 1,
L3905: 1, L0761: 1, L0772:
1, L0372: 1, L0646: 1,
L0374: 1, L0521: 1, L0662:
1, L0364: 1, L5564: 1,
L0378: 1, L0655: 1, L0379:

235	HBJJH66	767674	245	285 - 695	1650		56-72
					Tyr-15 to Cys-22.	AR052: 56, AR053: 51, AR096: 43, AR089: 39, AR055: 39, AR033: 34, AR061: 34, AR060: 23, AR104: 21, AR039: 17 H0575: 138, L0599: 44, H0042: 13, H0024: 13, H0652: 11, H0123: 9, H0647: 9, L0750: 8, H0375: 5, L0806: 5, L0653: 5, H0649: 4, L0776: 4, H0427: 3, H0646: 3, H0208: 2, H0050: 2, T0003: 2, L0600: 2, H0586: 1, H0318: 1, H0059: 1, S0472: 1, L0378: 1, S0296: 1, H0593: 1,	1, L0656: 1, L0659: 1, L0540: 1, L0526: 1, L0384: 1, L0544: 1, L0541: 1, L0789: 1, L0793: 1, L0666: 1, L0664: 1, L0665: 1, H0726: 1, H0547: 1, H0683: 1, H0651: 1, H0539: 1, H0518: 1, S0350: 1, H0555: 1, H0576: 1, H0627: 1, S3014: 1, S0027: 1, S0032: 1, L0756: 1, L0786: 1, L0777: 1, L0753: 1, H0445: 1, L0591: 1, L0592: 1, L0608: 1 and L0603: 1.

| 236 | HEGBB78 | 768346 | 246 | 1022 - 672 | 1651 | Lys-17 to Cys-29, Thr-69 to Cys-79, Arg-92 to Gly-99. | H0539: 1 and L0589: 1. AR033: 8, AR055: 7, AR052: 5, AR053: 4, AR061: 4, AR060: 4, AR089: 4, AR096: 3, AR104: 3, AR039: 0 L0731: 5, L0758: 5, H0620: 3, L0766: 3, S0360: 2, S0002: 2, L0809: 2, L0791: 2, L0748: 2, L0439: 2, L0747: 2, L0601: 2, H0556: 1, S0282: 1, H0125: 1, S0408: 1, H0549: 1, H0550: 1, S0222: 1, H0592: 1, T0114: 1, H0581: 1, H0596: 1, S6028: 1, H0622: 1, H0135: 1, H0087: 1, H0059: 1, H0529: 1, L0769: 1, L0761: 1, L0372: 1, L0646: 1, L0804: 1, L0774: 1, L0776: 1, L0783: 1, L0543: 1, H0670: 1, H0555: 1, S3012: 1, L0757: 1, S0260: 1, L0596: 1 and L0361: 1. | 32-55 |
| 237 | HAJBC01 | 768776 | 247 | 26 - 361 | 1652 | | AR039: 2, AR096: 2, AR055: 2, AR104: 1, AR033: 1, AR061: 1, AR089: 0, AR053: 0, | 44-92, 1-24, 76-92, 41-57 |

238	HHGCP75	769003	248	25 - 471	1653	Gly-140 to Glu-149.	AR060: 0, AR052: 0 H0561: 1	7q35-q36	118425, 118425, 118425, 142335, 152427, 163729, 176450, 180105, 190605, 276000, 276000, 600510, 600725	119-137

AR055: 8, AR060: 6, AR033: 6, AR061: 5, AR096: 5, AR104: 4, AR089: 4, AR052: 3, AR039: 3, AR053: 3, L0731: 17, L0439: 9, H0056: 8, L0438: 6, L0759: 6, L0157: 4, H0644: 4, S0010: 3, L0774: 3, L0747: 3, S0346: 2, H0309: 2, S0003: 2, S0002: 2, L0646: 2, L0803: 2, L0804: 2, H0539: 2, S0406: 2, L0748: 2, L0754: 2, L0745: 2, L0779: 2, L0777: 2, L0780: 2, L0752: 2, H0556: 1, T0049: 1, H0580: 1, S0045: 1, S0300: 1, H0411: 1, S0222: 1, H0391: 1, H0333: 1, S0474: 1, L0109: 1, H0196: 1, H0596: 1, H0050: 1, L0471: 1, H0014: 1, H0373: 1, H0020: 1, S0051: 1, H0687: 1, L0483: 1, H0553: 1, H0674: 1, H0163: 1, H0038: 1, H0059: 1, H0625: 1, H0561: 1, S0144: 1, H0538: 1, S0426: 1,

239	HAIDO95	771350	249	24 - 1031	1654	Pro-17 to Trp-26, Pro-76 to Arg-81, Asp-99 to Gly-106, Pro-148 to His-157, Glu-178 to Glu-185, Leu-195 to Pro-201.	AR055: 20, AR033: 12, AR053: 11, AR052: 11, AR060: 10, AR089: 10, AR061: 9, AR096: 6, AR104: 3, AR039: 3 L0766: 11, L0769: 3, L0761: 3, L0655: 3, L0777: 3, L0780: 3, H0543: 3, H0556: 2, S0476: 2, H0039: 2, L0794: 2, L0804: 2, L0805: 2, L0787: 2, L0747: 2, L0362: 2, S0026: 2, H0542: 2, L0005: 1, S0356: 1, S0360: 1, H0580: 1, S0132: 1, H0318: 1, L0483: 1, H0032: 1, H0090: 1, H0634: 1, H0538: 1, L0770: 1, L0646: 1, L0771: 1, L5574: 1, L0388: 1, L0653: 1, L0606: 1, L0367: 1, L0789: 1, H0144: 1, H0436: 1, L0749: 1 and S0194: 1.	L0770: 1, L0769: 1, L0764: 1, L0766: 1, L0809: 1, L0791: 1, L0792: 1, H0519: 1, H0521: 1, S0028: 1, L0751: 1, L0749: 1, L0750: 1, L0755: 1, H0668: 1, H0136: 1, H0423: 1 and H0422: 1.	252-269, 219-235, 121-137

| 240 | HE8UD19 | 771648 | 250 | 19 - 759 | 1655 | Lys-20 to Tyr-27, Tyr-35 to Ser-49. | AR096: 3, AR061: 2, AR033: 2, AR060: 1, AR053: 1, AR052: 1, AR055: 0, AR089: 0, AR104: 0 S0414: 5, L0663: 4, L0777: 4, L0803: 3, L0744: 3, L0752: 3, L0731: 3, L0526: 2, L0743: 2, L0740: 2, L0751: 2, L0756: 2, L0758: 2, H0686: 1, S0040: 1, H0650: 1, H0663: 1, H0370: 1, H0013: 1, L0021: 1, S0346: 1, H0251: 1, H0046: 1, S0051: 1, S0318: 1, H0687: 1, H0488: 1, H0412: 1, H0623: 1, H0059: 1, S0002: 1, L0763: 1, L0764: 1, L0766: 1, L0805: 1, L0659: 1, L0664: 1, L0665: 1, H0690: 1, H0435: 1, H0659: 1, H0521: 1, H0522: 1, L0759: 1, S0031: 1, H0543: 1 and S0446: 1. | 8q21 | 124080, 202010, 202010, 214400, 602476, 602667 | 132-150, 78-94 |
| 241 | HMAIT58 | 771900 | 251 | 79 - 432 | 1656 | Met-1 to Gly-16, Ser-32 to Lys-38, Ser-64 to Lys-84. | AR096: 17, AR055: 9, AR060: 8, AR039: 7, AR061: 6, AR033: 6, AR052: 6, AR053: 5, AR089: 5, AR104: 4 L0766: 3, S0358: 2, S0278: | | | 36-65 |

242	HDAAE77	772217	252	104 - 1435	1657	2, L0775: 2, L0756: 2, H0650: 1, H0656: 1, H0402: 1, H0013: 1, S0049: 1, H0644: 1, H0652: 1, S0142: 1, S0002: 1, L0770: 1, L0768: 1, L0649: 1, L0784: 1, L0776: 1, H0521: 1, H0522: 1 and H0555: 1. AR055: 1, AR052: 1, AR053: 1, AR061: 1, AR089: 1, AR033: 1, AR104: 1, AR060: 1, AR096: 0, AR039: 0 L0439: 4, H0013: 2, H0497: 1, T0010: 1, T0041: 1, H0144: 1 and L0438: 1.	402-418
243	HKAOJ07	772639	253	112 - 423	1658	AR096: 8, AR089: 6, AR052: 5, AR053: 5, AR039: 4, AR033: 3, AR060: 2, AR104: 2, AR055: 2, AR061: 1 L0750: 4, H0265: 3, L0794: 3, L0731: 3, H0635: 2, H0494: 2, L0766: 2, S0116: 1, H0052: 1, H0264: 1, S0002: 1, L0769: 1, L0764: 1, L0768: 1, H0144: 1, L0608: 1 and L0501: 1.	71-89, 19-44
244	HDTFC73	772840	254	983 -	1659	Leu-19 to Asn-29, AR052: 2, AR053: 2,	28-58

									44-60, 129-145
245	HDTFI132	773040	255	1303	Glu-96 to Lys-101.	AR096: 1, AR089: 1, AR055: 1, AR104: 1, AR061: 1, AR033: 1, AR060: 1, L0439: 7, L0777: 3, S0007: 2, H0031: 2, L0438: 2, L0411: 1, H0662: 1, H0638: 1, S0222: 1, H0486: 1, L0021: 1, H0052: 1, T0010: 1, H0032: 1, H0268: 1, L0351: 1, L0766: 1, L0804: 1, L0655: 1, L0809: 1, S0216: 1 and H0522: 1.			
			1660	74 - 538	Pro-13 to Ser-18.	AR096: 2, AR089: 2, AR104: 1, AR060: 1, AR052: 1, AR033: 0, AR039: 0, AR061: 0, S0476: 11, H0556: 10, H0265: 4, H0635: 4, H0657: 2, H0638: 2, S0132: 2, H0036: 2, L0601: 2, H0423: 2, H0713: 1, S0134: 1, S0298: 1, H0486: 1, H0069: 1, H0575: 1, T0082: 1, H0581: 1, L0471: 1, H0321: 1, H0591: 1, H0560: 1, H0641: 1, L0506: 1, L0775: 1, L0657: 1, H0435: 1, H0518: 1, H0521: 1, S0406: 1, L0749: 1 and H0543: 1.			

246	HLQCY70	773347	256	47 - 373	1661	Gly-5 to Gln 12, Lys-98 to Pro-106.		48-64, 72-88
							AR033: 46, AR055: 45, AR039: 38, AR053: 35, AR089: 34, AR052: 33, AR096: 26, AR061: 21, AR060: 21, AR104: 19 H0617: 9, L0751: 6, L0750: 5, L0752: 5, L0770: 4, L0747: 4, L0761: 3, L0775: 3, H0657: 2, S0358: 2, S0444: 2, H0457: 2, H0188: 2, H0181: 2, H0606: 2, L0769: 2, L0772: 2, L0764: 2, L0766: 2, L0774: 2, L0742: 2, L0748: 2, L0757: 2, L0758: 2, H0624: 1, H0685: 1, H0295: 1, S0114: 1, H0661: 1, S0140: 1, H0411: 1, S0278: 1, H0549: 1, H0587: 1, H0574: 1, H0013: 1, H0253: 1, H0318: 1, H0052: 1, H0309: 1, H0204: 1, H0545: 1, H0033: 1, H0424: 1, H0598: 1, H0135: 1, H0163: 1, H0616: 1, H0412: 1, H0059: 1, H0494: 1, H0560: 1, S0440: 1, S0144: 1, L5565: 1, L0373: 1, L0646: 1, L0768: 1, L0499: 1, L0497: 1, L0513: 1, L0783: 1,	

247	HELDG78	773740	257	2 - 301	1662	Lys-31 to Lys-39, Gln-41 to Lys-46, Pro-79 to Ala-85, Glu-95 to Leu-100.	AR055: 5, AR052: 3, AR061: 3, AR033: 3, AR060: 2, AR089: 2, AR039: 2, AR104: 2, AR053: 1, AR096: 1 S0045: 1, S0222: 1, H0250: 1, H0617: 1 and S0028: 1.	L0384: 1, L0519: 1, L3872: 1, L0368: 1, L0665: 1, S0053: 1, H0144: 1, H0670: 1, H0672: 1, H0651: 1, H0696: 1, S0406: 1, L0740: 1, L0754: 1, L0780: 1, L0731: 1, L0596: 1, S0026: 1, H0543: 1, H0677: 1 and H0352: 1.	61-77
248	HAGEK19	774276	258	649 - 41	1663		AR033: 13, AR104: 10, AR055: 7, AR060: 5, AR061: 5, AR052: 5, AR096: 4, AR089: 4, AR053: 3, AR039: 2 S0010: 4, S0222: 3, H0455: 2, L0803: 2, L0439: 2, L0745: 2, S0282: 1, S0400: 1, H0722: 1, H0456: 1, H0441: 1, S0346: 1, H0714: 1, H0509: 1, L0769: 1, L0793: 1, L0438: 1,		144-160, 99-115

					SEQ ID				
249	H2CBA34	774569	259	291 - 854	1664	Asp-20 to Leu-26, Gln-55 to Thr-60, Asn-74 to Asn-86.	AR055: 11, AR033: 9, AR060: 6, AR104: 6, AR096: 6, AR061: 5, AR089: 4, AR053: 4, AR052: 4, AR039: 3 L0740: 2, S0222: 1, T0082: 1, T0110: 1, T0010: 1, L0483: 1, L0763: 1, L0639: 1, L0747: 1, L0777: 1, L0758: 1 and L0599: 1.	L0756: 1, S0434: 1 and S0106: 1.	114-130, 147-163
250	HDPTC79	774739	260	465 - 764	1665		AR052: 8, AR053: 7, AR033: 3, AR055: 3, AR096: 3, AR089: 2, AR061: 2, AR060: 2, AR104: 1, AR039: 0 L0777: 5, L0439: 2, L0596: 2, T0004: 1, L0658: 1, H0518: 1, H0521: 1, L0731: 1 and S0106: 1.		60-78, 17-33
251	HTHBY73	775247	261	273 - 734	1666	Met-1 to Arg-7.	AR055: 17, AR033: 13, AR039: 12, AR052: 10, AR089: 10, AR053: 10, AR061: 9, AR060: 8, AR096: 7, AR104: 7 H0063: 1		90-116, 51-70, 79-95, 21-37
252	HE8DL19	775419	262	152 - 592	1667	Gln-11 to Arg-21.	AR055: 2, AR089: 1, AR104: 1, AR060: 1,		44-65, 92-112, 21-

| 253 | HMEGE46 | 775455 | 263 | 31 - 423 | 1668 | Leu-12 to Thr-19, Arg-25 to Glu-39, Glu-41 to Cys-48, Ser-65 to Ser-71, Pro-84 to Gly-89, Ser-97 to Arg-103. | AR055: 7, AR052: 5, AR096: 5, AR060: 4, AR053: 3, AR033: 3, AR089: 3, AR104: 3, AR061: 3, AR039: 2 L0766: 8, L0777: 7, L0794: 5, L0770: 4, H0266: 3, L0803: 3, L0776: 3, H0144: 3, L0740: 3, L0754: 3, L0750: 3, S0222: 2, S0414: 2, H0013: 2, H0575: 2, H0590: 2, H0644: 2, L0769: 2, L0764: 2, L0662: 2, L0809: 2, L0789: 2, H0696: 2, L0439: 2, L0745: 2, S0026: 2, H0170: 1, H0556: 1, H0685: 1, H0713: 1, S0045: 1, H0411: 1, H0497: 1, L0021: 1, H0004: 1, H0052: 1, L0041: 1, H0083: 1, H0267: 1, H0615: 1, H0598: 1, H0591: 1, H0412: 1, H0560: 1, H0641: 1, L0796: 1, L0761: 1, L0771: 1, L0804: 1, L0775: | AR096: 0, AR061: 0, AR033: 0, AR053: 0, AR039: 0, AR052: 0 H0013: 1, S0214: 1, H0615: 1 and L0544: 1. | 37, 124-140 | 102-131 |

254	HTEIA85	778081	264	125 - 1657	1669			
					Val-29 to Asp-34, Gln-78 to Gln-86, Val-94 to Leu-100, Glu-112 to Leu-117, Gln-119 to Ile-133, Glu-152 to Ala-157, Thr-159 to Gln-168, Lys-209 to Glu-218, Thr-225 to Ser-231, Trp-410 to Trp-415, Ala-505 to Ser-510.	AR055: 6, AR052: 6, AR053: 5, AR033: 4, AR060: 4, AR089: 4, AR061: 3, AR096: 3, AR104: 2, AR039: 2 L0748: 11, L0758: 11, L0594: 6, L0439: 5, L0759: 5, H0556: 4, L0769: 4, S0442: 3, I10036: 3, I10083: 3, H0124: 3, H0100: 3, L0662: 3, L0666: 3, L0756: 3, L0752: 3, H0170: 2, S0045: 2, H0644: 2, H0628: 2, H0038: 2, H0551: 2, L0564: 2, S0422: 2, L0770: 2, L0646: 2, L0771: 2, L0766: 2, L0649: 2, L0653: 2, L0659: 2, H0539: 2, L0740: 2, L0747: 2, L0749: 2, L0753: 2, L0757: 2, S0436: 2, L0584: 2, L0599:	1, L0375: 1, L0806: 1, L0805: 1, L0659: 1, L0788: 1, L0666: 1, H0520: 1, H0660: 1, H0521: 1, H0522: 1, S0406: 1, H0555: 1, S0028: 1, L0747: 1, S0031: 1, L0608: 1, L0593: 1, H0668: 1, S0242: 1 and H0423: 1.	349-366, 272-288, 380-396

| 255 | HSHBF13 | 778087 | 265 | 270 - | 1670 | Ala-18 to Gln-28. | AR052: 16, AR055: 16, 2, L0595: 2, H0686: 1, S0040: 1, H0295: 1, S0212: 1, H0255: 1, H0661: 1, S0444: 1, S0360: 1, H0580: 1, H0729: 1, S0046: 1, L0717: 1, S0278: 1, S0222: 1, H0587: 1, H0333: 1, H0427: 1, H0156: 1, H0575: 1, H0004: 1, H0253: 1, H0545: 1, H0046: 1, H0045: 1, H0051: 1, S0388: 1, H0594: 1, H0428: 1, H0673: 1, H0169: 1, H0674: 1, H0135: 1, H0040: 1, H0268: 1, L0351: 1, T0041: 1, S0382: 1, S0306: 1, S0440: 1, H0509: 1, S0144: 1, S0426: 1, H0743: 1, L0369: 1, L0638: 1, L0764: 1, L0765: 1, L0768: 1, L0388: 1, L0774: 1, L0657: 1, L5623: 1, L0790: 1, L0663: 1, L0664: 1, H0144: 1, L0438: 1, H0519: 1, H0648: 1, H0521: 1, H0522: 1, S0013: 1, H0436: 1, S3014: 1, S0027: 1, L0751: 1, L0779: 1, H0543: 1 and L0600: 1. | 73-97, |

256	HLYCQ80	778291	266	539 - 240	1671	707	108-134, 42-58	52-72, 7-23
					Lys-31 to Thr-39.			

AR053: 14, AR033: 12, AR060: 10, AR089: 8, AR096: 7, AR061: 7, AR104: 5, AR039: 4, H0046: 6, L0758: 5, L0794: 3, L0803: 3, L0779: 3, H0052: 2, H0424: 2, H0135: 2, L0809: 2, L0789: 2, H0690: 2, S3014: 2, L0743: 2, L0751: 2, L0731: 2, H0295: 1, S0001: 1, S0282: 1, H0484: 1, H0306: 1, S0360: 1, S0278: 1, S6022: 1, H0457: 1, H0031: 1, H0316: 1, H0038: 1, S0002: 1, L0800: 1, L0643: 1, L0764: 1, L0773: 1, L0650: 1, L0774: 1, L0655: 1, L0658: 1, L0659: 1, L0664: 1, L0665: 1, H0547: 1, H0435: 1, H0670: 1, S0037: 1, L0748: 1, L0599: 1 and L0601: 1.

AR053: 1, AR060: 1, AR055: 1, AR033: 1, AR061: 0, AR089: 0, AR096: 0, AR052: 0, AR039: 0, AR104: 0 L0758: 13, L0756: 3, L0752: 3, L0438: 2, H0176:

| 257 | HE2OF81 | 778504 | 267 | 162 - 611 | 1672 | Met-1 to Gln-8, Leu-17 to Leu-29, Gln-109 to Thr-115. | 1, H0261: 1, H0309: 1, H0081: 1, H0029: 1, H0038: 1, H0616: 1, H0202: 1, L0369: 1, L0766: 1, L0774: 1, L0776: 1, L0635: 1, L0809: 1, L0791: 1, H0547: 1, H0711: 1, H0690: 1, S0152: 1, H0479: 1, L0743: 1, L0439: 1, L0750: 1, L0777: 1, L0755: 1, H0445: 1 and L0588: 1. | AR055: 13, AR060: 9, AR052: 9, AR061: 8, AR053: 8, AR033: 5, AR089: 4, AR096: 3, AR104: 2, AR039: 0 L0761: 3, L0439: 3, L0747: 3, L0766: 2, H0659: 2, L0779: 2, L0777: 2, H0170: 1, S0360: 1, H0550: 1, H0023: 1, H0018: 1, H0641: 1, L0763: 1, L0769: 1, L0764: 1, L0803: 1, L0774: 1, L0655: 1, L0666: 1, H0648: 1 and H0436: 1. | 91-107 |
| 258 | HTEBB88 | 779291 | 268 | 52 - 630 | 1673 | Glu-53 to Asp-58, Trp-98 to Lys-103, Leu-131 to Arg-144. | | AR052: 285, AR089: 170, AR096: 161, AR053: 143, AR060: 83, AR104: 64, AR033: 49, AR039: 43, | 103-120 |

| 259 | HWHGD8 2 | 779607 | 269 | 81 - 461 | 1674 | Asn-14 to Ser-19, Asp-46 to Phe-51, Glu-101 to Asp-117, Ile-121 to Gly-127. | AR039: 23, AR104: 18, AR033: 17, AR096: 10, AR052: 8, AR053: 7, AR055: 6, AR089: 6, AR060: 5, AR061: 4 L0754: 16, H0617: 8, S0360: 6, H0551: 6, L0748: 6, L0750: 6, H0543: 6, L0766: 5, L0666: 5, L0751: 5, L0747: 5, S0418: 4, H0553: 4, L0665: 4, H0542: 4, H0586: 3, S0414: 3, H0264: 3, H0494: 3, S0344: 3, L0769: 3, L0438: 3, H0547: 3, H0519: 3, H0521: 3, L0740: 3, L0757: 3, S0192: 3, H0656: 2, H0254: 2, H0255: 2, S0046: 2, S0132: 2, H0587: 2, H0559: 2, H0618: 2, H0620: 2, H0199: 2, H0688: 2, L0770: 2, L0372: 2, L0642: 2, L0771: 2, L0662: 2, L0653: 2, L0659: 2, L0783: 2, H0435: 2, H0660: 2, L0602: 2, H0436: 2, S3014: 2, L0731: 2, L0759: 2, L0588: | AR061: 42, AR055: 40 L0758: 6, H0616: 3, H0038: 2 and H0618: 1. | 13q12 | 121011, 121011, 129500, 253700, 601885, 602221 | 18-44, 75-96 |

2, L0599: 2, L0601: 2,
H0506: 2, H0352: 2, H0265:
1, H0556: 1, H0583: 1,
H0657: 1, H0341: 1, S0110:
1, H0484: 1, H0662: 1,
H0402: 1, S0420: 1, S0356:
1, S0354: 1, S0444: 1,
S0300: 1, L0717: 1, S0278:
1, S0222: 1, H0370: 1,
H0415: 1, H0497: 1, H0632:
1, H0486: 1, H0599: 1,
H0318: 1, T0110: 1, H0597:
1, H0046: 1, H0457: 1,
H0150: 1, H0009: 1, H0562:
1, H0014: 1, H0594: 1,
H0179: 1, H0271: 1, H0428:
1, H0424: 1, H0181: 1,
L0055: 1, S0364: 1, H0040:
1, H0634: 1, H0063: 1,
H0488: 1, H0413: 1, H0100:
1, H0561: 1, S0448: 1,
S0440: 1, H0131: 1, L0598:
1, H0529: 1, L0763: 1,
L0639: 1, L0637: 1, L0761:
1, L0772: 1, L0646: 1,
L0800: 1, L0644: 1, L0773:
1, L0521: 1, L0649: 1,
L0381: 1, L0375: 1, L0651:
1, L0655: 1, L0607: 1,
L0807: 1, L0657: 1, L0787:

260	HWADH6 7	779663	270	143 - 628	1675	Glu-37 to Asn-44.		102-119
							1, L0663: 1, S0428: 1, H0144: 1, H0593: 1, S0126: 1, H0690: 1, H0670: 1, S0328: 1, S0380: 1, S0350: 1, H0522: 1, S0188: 1, S0027: 1, S0206: 1, L0744: 1, L0439: 1, L0756: 1, L0777: 1, L0755: 1, H0445: 1, H0136: 1, S0042: 1 and L0697: 1.	AR052: 5, AR053: 3, AR096: 3, AR033: 3, AR089: 2, AR060: 2, AR104: 2, AR061: 1, AR055: 0, AR039: 0 L0439: 7, L0759: 5, H0624: 4, H0170: 4, S0003: 4, L0766: 4, H0657: 3, H0013: 3, L0438: 3, H0068: 2, L0598: 2, L0646: 2, L0794: 2, L0659: 2, L0647: 2, L0666: 2, H0520: 2, L0747: 2, L0756: 2, L0779: 2, L0777: 2, L0588: 2, L0592: 2, H0171: 1, H0556: 1, S0376: 1, S0045: 1, S0222: 1, H0586: 1, T0114: 1, H0581: 1, L0471: 1, H0355: 1, S6028: 1, S0214: 1, H0615: 1, H0428: 1,	

261	HKADC82	779838	271	138 - 530	1676	Asn-3 to Phe-9.	H0039: 1, H0591: 1, H00040: 1, T0004: 1, L0763: 1, L0768: 1, L0774: 1, L0806: 1, L0789: 1, L0663: 1, L0665: 1, L0352: 1, H0519: 1, H0690: 1, H0648: 1, H0518: 1, H0521: 1, L0780: 1, L0753: 1, L0755: 1, L0731: 1, L0758: 1, L0596: 1, L0599: 1, L0593: 1, S0026: 1, H0667: 1 and H0543: 1. AR052: 3, AR033: 2, AR104: 2, AR089: 2, AR055: 2, AR039: 2, AR096: 2, AR053: 2, AR061: 1, AR060: 1 L0766: 5, H0494: 2, L0755: 2, L0800: 1, L0773: 1 and L0777: 1.	86-110, 7-32, 65-82
262	HHESK83	780458	272	29 - 457	1677	Met-1 to Glu-10.	AR052: 3, AR053: 2, AR104: 2, AR089: 1, AR033: 1, AR061: 1, AR060: 1, AR096: 1, AR055: 0, AR039: 0 H0543: 1	99-121, 124-140
263	HMIAT16	780804	273	822 - 502	1678	Pro-89 to Phe-96.	AR033: 20, AR104: 16, AR055: 8, AR061: 7, AR060: 5, AR053: 5,	60-77, 22-38

264	HSLJK83	780819	274	149 - 763	1679	Asp-39 to Gln-44.	AR052: 5, AR089: 5, AR096: 4, AR039: 3 S0414: 3, S0036: 3, L0439: 3, H0327: 2, H0051: 2, S6028: 2, S0282: 1, H0406: 1, H0438: 1, S0010: 1, S0038: 1, S0260: 1 and S0412: 1.	9-29, 120-136
265	HADFW62	781376	275	29 - 340	1680	Pro-37 to Cys-42, Pro-52 to Gly-63.	AR053: 2, AR096: 1, AR089: 1, AR060: 1, AR104: 1, AR055: 1, AR033: 0, AR039: 0, AR061: 0, AR052: 0 H0164: 1 and S0390: 1.	77-95, 10-26
266	HDTBV64	781623	276	24 - 401	1681	Ile-35 to Ser-44.	AR052: 3, AR096: 3, AR053: 2, AR089: 2, AR033: 2, AR039: 1, AR060: 1, AR104: 1, AR055: 1, AR061: 0 L0439: 2, L0747: 2, L0756: 2, H0556: 1, S0116: 1, H0333: 1, H0427: 1, H0156: 1, H0052: 1, S0210: 1, L0769: 1, L0646: 1, L0657: 1, L0384: 1, L0543: 1, H0670: 1, H0521: 1, H0478: 1, L0745: 1, L0749: 1, L0757: 1 and L0591: 1. AR033: 8, AR060: 6,	80-102, 1-

17

AR089: 3, AR096: 3,
AR052: 2, AR053: 2,
AR061: 1, AR104: 1,
AR055: 0, AR039: 0

L0752: 8, L0766: 6,
S0444: 5, L0770: 5, L0439:
5, L0731: 5, S0360: 3,
H0031: 3, L0803: 3, S0126:
3, L0755: 3, L0758: 3,
S0358: 2, H0722: 2, H0090:
2, H0056: 2, L0805: 2,
L0659: 2, L0666: 2, L0665:
2, H0519: 2, S0330: 2,
H0521: 2, L0747: 2, H0170:
1, H0716: 1, H0740: 1,
S0114: 1, S0212: 1, S0442:
1, S0354: 1, H0580: 1,
H0329: 1, H0431: 1, H0497:
1, H0331: 1, H0574: 1,
H0632: 1, H0486: 1, H0427:
1, L0021: 1, H0036: 1,
H0274: 1, S0010: 1, H0318:
1, H0581: 1, H0374: 1,
H0052: 1, H0596: 1, H0597:
1, H0545: 1, H0373: 1,
S0388: 1, H0107: 1, S0003:
1, S0214: 1, H0428: 1,
H0622: 1, H0553: 1, H0163:
1, H0087: 1, T0067: 1,
H0494: 1, H0560: 1, S0438:

267	HOHBR65	781821	277	225 - 578	1682	Met-1 to Gly-7, Pro-99 to Phe-104.	AR096: 1, AR052: 1, AR033: 1, AR060: 1, AR089: 1, AR061: 0, AR055: 0, AR053: 0, AR104: 0 H0009: 2, H0583: 1, S0045: 1 and S0250: 1.	1, S0440: 1, S0426: 1, UNKWN: 1, L0598: 1, L0763: 1, L0769: 1, L0638: 1, L0761: 1, L0641: 1, L0776: 1, L0379: 1, L0657: 1, L0809: 1, L0519: 1, L0791: 1, L0663: 1, H0684: 1, H0672: 1, S0378: 1, H0522: 1, S0404: 1, S0406: 1, S0028: 1, L0750: 1, L0756: 1, L0753: 1, S0031: 1, H0445: 1, H0595: 1, S0436: 1, L0581: 1, L0608: 1, S0011: 1, S0026: 1, S0192: 1, S0196: 1, H0423: 1 and S0424: 1.	55-78, 31-48
268	HRABZ84	782028	278	119 - 901	1683	Glu-46 to Asn-51, Gly-56 to Gly-63.	AR096: 6, AR053: 6, AR052: 4, AR089: 3, AR060: 2, AR039: 2, AR033: 2, AR055: 2, AR104: 2, AR061: 1 L0740: 8, L0749: 8,	207-223

S0040: 4, L0766: 4, L0779: 4, L0471: 3, H0090: 3, H0040: 3, L0748: 3, L0752: 3, S0358: 2, H0644: 2, H0616: 2, L0763: 2, L0774: 2, L0659: 2, L0809: 2, H0144: 2, L0744: 2, L0754: 2, L0750: 2, L0777: 2, L0758: 2, H0686: 1, H0685: 1, H0583: 1, H0657: 1, H0662: 1, S0360: 1, S0046: 1, L0717: 1, H0351: 1, H0549: 1, H0586: 1, H0587: 1, H0013: 1, S0280: 1, H0156: 1, H0575: 1, H0318: 1, H0231: 1, H0046: 1, S6028: 1, H0266: 1, H0687: 1, S0003: 1, S0214: 1, H0063: 1, H0264: 1, H0641: 1, S0002: 1, S0426: 1, L0764: 1, L0662: 1, L0386: 1, L0775: 1, L0654: 1, L0665: 1, L0438: 1, H0519: 1, H0593: 1, H0365: 1, H0555: 1, L0439: 1, L0746: 1, L0747: 1, L0756: 1, L0780: 1, L0755: 1, S0308: 1, L0591: 1, L0362: 1, L0366: 1, S0026: 1, S0192: 1 and H0506: 1.

| 269 | HKABD18 | 782431 | 279 | 30 - 338 | 1684 | Met-1 to Pro-6, Thr-18 to Ala-32, Gln-39 to Gly-44. | AR089: 47, AR096: 47, AR104: 33, AR053: 25, AR039: 23, AR052: 22, AR033: 22, AR060: 17, AR055: 4, AR061: 3 L0803: 2, L0748: 2, H0556: 1, S0134: 1, H0734: 1, S0010: 1, H0687: 1, H0428: 1, H0494: 1, L0662: 1, L0804: 1, L0776: 1, L0809: 1, L0787: 1, S0152: 1, H0522: 1, L0439: 1, L0756: 1, L0752: 1, L0758: 1, L0599: 1, L0601: 1 and H0543: 1. | 51-67 |
| 270 | HUFAJ06 | 783017 | 280 | 231 - 1040 | 1685 | Met-1 to Arg-7, Pro-9 to Ile-17, Glu-26 to Tyr-38. | AR052: 5, AR053: 3, AR096: 2, AR089: 1, AR033: 1, AR055: 1, AR104: 1, AR060: 1, AR061: 1, AR039: 0 L0439: 5, L0770: 4, L0794: 4, L0758: 4, L0665: 3, H0657: 2, S0360: 2, H0039: 2, H0040: 2, H0551: 2, L0803: 2, L0747: 2, L0777: 2, H0423: 2, H0638: 1, S0420: 1, S0007: 1, H0050: 1, H0510: 1, H0594: 1, S0003: 1, H0264: 1, H0494: 1, H0560: 1, H0625: 1 | 45-61 |

| 271 | HDQFV46 | 783316 | 281 | 77 - 667 | 1686 | His-13 to Gln-20, Gly-27 to Ser-55, Glu-175 to Gly-187. | 1, L0598: 1, L0648: 1, L0662: 1, L0768: 1, L0766: 1, L0804: 1, L0774: 1, H0547: 1, H0519: 1, H0435: 1, S0380: 1, L0759: 1, H0445: 1, H0542: 1 and H0506: 1. | AR052: 51, AR033: 42, AR055: 40, AR053: 36, AR089: 30, AR060: 14, AR061: 12, AR096: 11, AR039: 10, AR104: 6 | 123-142 |
| 272 | HMEKH64 | 783318 | 282 | 139 - 1155 | 1687 | Leu-26 to Gly-33, Glu-44 to Cys-49, Gln-54 to Ile-62, Glu-75 to Lys-80. | AR033: 3, AR052: 3, AR089: 3, AR060: 3, AR053: 2, AR096: 2, AR055: 1, AR039: 1, AR104: 1, AR061: 1 | L0766: 12, H0659: 5, L0749: 5, S0410: 4, S0422: 4, H0650: 3, H0341: 3, H0032: 3, H0529: 3, L0646: 3, H0520: 3, H0547: 3, H0521: 3, L0748: 3, H0423: 3, H0657: 2, S0280: 2, H0266: 2, H0090: 2, H0040: 2, L0803: 2, L0804: 2, L0666: 2, H0658: 2, H0672: 2, L0756: 2, L0757: 2, | 300-316, 176-192 |

WO 01/90304

PCT/US01/16450

273	HTLEE85	783631	283	51 - 413	1688		43-67, 17-34
					Gln-77 to Ala-82, Thr-90 to Asp-100, Leu-108 to Ala-120.	L0759: 2, S0424: 2, H0170: 1, H0556: 1, H0656: 1, S0001: 1, H0662: 1, S0418: 1, S0420: 1, S0444: 1, H0728: 1, S0045: 1, L0717: 1, H0486: 1, H0318: 1, H0596: 1, T0110: 1, H0024: 1, H0428: 1, H0616: 1, H0551: 1, H0560: 1, H0625: 1, S0440: 1, H0647: 1, L0520: 1, L0763: 1, L0764: 1, L0521: 1, L0774: 1, L0375: 1, L0805: 1, L0776: 1, L0655: 1, L0635: 1, L0809: 1, L0789: 1, L0663: 1, L0665: 1, S0374: 1, H0519: 1, H0435: 1, H0670: 1, H0134: 1, S0406: 1, H0555: 1, L0439: 1, L0750: 1, L0777: 1, L0752: 1, L0755: 1, L0758: 1, L0608: 1, H0542: 1 and H0422: 1. AR039: 10, AR055: 8, AR033: 7, AR053: 7, AR089: 6, AR052: 6, AR096: 5, AR060: 5, AR104: 5, AR061: 4, H0618: 3, H0052: 2, I0411: 1, H0333: 1, H0253: 1, H0622: 1, H0424: 1,	

274	HCE4Q82	783713	284	73 - 795	1689	Gly-10 to Arg-18, Leu-23 to Lys-30, Gly-53 to Pro-60, Asn-72 to Arg-81, Ser-86 to Lys-95, Glu-97 to Asp-105.	AR104: 12, AR096: 11, AR053: 10, AR055: 10, AR052: 9, AR060: 8, AR033: 7, AR089: 7, AR061: 5, AR039: 5 H0038: 5, H0616: 5, L0758: 5, S0003: 3, L0741: 3, S0278: 2, H0156: 2, H0052: 2, S0144: 2, S0344: 2, L0768: 2, S0218: 1, H0484: 1, H0638: 1, S0045: 1, S0046: 1, H0438: 1, H0562: 1, L0769: 1, L0794: 1, S0122: 1 and L0749: 1. S0378: 1, L0749: 1 and S0436: 1.	170-186, 120-136
275	IIODEC95	783883	285	29 - 382	1690		AR055: 8, AR052: 7, AR089: 6, AR060: 6, AR096: 5, AR033: 5, AR104: 5, AR053: 4, AR039: 4, AR061: 4 H0615: 4 and H0556: 1.	67-89, 91-107
276	HCBBA47	783892	286	1035 - 1340	1691	Thr-37 to Ser-43, Pro-62 to Asn-67, His-73 to Tyr-82, Pro-94 to Ser-102.	AR104: 240, AR061: 184, AR060: 129, AR033: 121, AR089: 99, AR053: 77, AR052: 76, AR055: 67, AR039: 62, AR096: 56 S0136: 8, L0754: 5, L0758: 5, L0768: 3, L0766:	40-62, 19-35

| 277 | HSKEQ61 | 783939 | 287 | 577 - 2247 | 1692 | Met-1 to Lys-6, Ser-31 to Ala-45, Cys-102 to Glu-107, Arg-151 to Asp-157, Gln-191 to Ser-197, Glu-215 to Leu-220, Ser-264 to Leu-270, - | AR052: 26, AR033: 26, AR053: 18, AR089: 15, AR060: 9, AR096: 9, AR055: 8, AR104: 6, AR061: 5, AR039: 4 H0266: 4, H0547: 4, H0521: 3, L0748: 3, S0358: 3, L0803: 3, L0749: 3, H0506: 3, H0560: 2, L0598: 2, L0662: 2, L0794: 2, L0804: 2, L0805: 2, H0520: 2, H0547: 2, H0436: 2, L0747: 2, L0755: 2, L0685: 2, H0583: 1, H0650: 1, H0177: 1, S0358: 1, H0580: 1, S0222: 1, H0642: 1, T0060: 1, H0421: 1, S0388: 1, H0266: 1, H0687: 1, T0023: 1, H0553: 1, H0379: 1, H0268: 1, S0144: 1, S0422: 1, H0529: 1, L0520: 1, L0761: 1, L0667: 1, L0772: 1, L0764: 1, L0652: 1, L0664: 1, L0665: 1, H0144: 1, H0519: 1, S0126: 1, H0672: 1, H0521: 1, L0746: 1, L0750: 1, L0779: 1, L0731: 1, L0759: 1, L0601: 1, L0603: 1, S0196: 1, H0543: 1 and H0423: 1. | 9q31.2 | 223900, 253800, 253800 | 517-533, 476-492 |

278	HWEAC64	784039	288	129 - 551	1693		32-57
					Met-1 to Thr-7, Glu-13 to Val-18, Val-25 to Asn-34, Gly-56 to Val-63, Gln-80 to Glu-89,	AR104: 1, AR033: 1, AR089: 1, AR053: 0, AR096: 0, AR061: 0, AR039: 0, AR052: 0, AR060: 0, AR055: 0	
					Gly-351 to Gly-358, Lys-364 to Asn-371, Ser-374 to Gln-385, Glu-407 to Glu-413, Tyr-419 to Ser-424, Arg-435 to Gln-444.	2, L0471: 2, H0373: 2, H0068: 2, H0509: 2, H0519: 2, H0435: 2, S0152: 2, L0754: 2, L0603: 2, S0192: 2, H0170: 1, H0657: 1, S0212: 1, H0638: 1, S0354: 1, H0580: 1, S0045: 1, H0431: 1, H0333: 1, T0039: 1, H0013: 1, H0575: 1, S0049: 1, H0687: 1, S0003: 1, H0032: 1, S0364: 1, H0040: 1, H0551: 1, T0067: 1, H0268: 1, H0413: 1, T0069: 1, T0042: 1, S0150: 1, H0652: 1, H0529: 1, L0649: 1, L0803: 1, S0374: 1, H0691: 1, H0660: 1, H0672: 1, S0350: 1, H0478: 1, S0027: 1, S0028: 1, L0439: 1, L0740: 1, L0750: 1, L0755: 1, L0757: 1, L0759: 1, S0031: 1, L0591: 1, L0593: 1, S0026: 1, S0194: 1, S0196: 1 and S0424: 1.	

| 279 | HSDFQ43 | 784159 | 289 | 14 - 433 | 1694 | Lys-102 to Leu-111, Gln-114 to Gln-119.

Met-1 to Arg-15. | H0694: 29, H0703: 13, H0683: 10, H0717: 7, H0713: 6, H0542: 6, H0687: 4, H0656: 3, H0685: 2, H0716: 2, H0688: 2, H0695: 2, S0428: 2, H0689: 2, H0684: 2, H0521: 2, H0580: 1, H0601: 1, H0592: 1, H0708: 1, S0150: 1, H0699: 1, H0519: 1, H0709: 1, H0522: 1, H0555: 1, S0028: 1, H0707: 1 and H0543: 1.

AR104: 33, AR033: 30, AR060: 17, AR039: 15, AR096: 14, AR089: 14, AR053: 12, AR052: 10, AR055: 9, AR061: 5 S0422: 20, S0408: 10, L0776: 8, S0444: 7, H0038: 7, S0358: 6, L0740: 6, L0754: 6, L0758: 6, S0440: 5, L0771: 5, S0374: 5, L0756: 5, L0757: 5, L0774: 4, L0519: 4, H0547: 4, H0660: 4, L0748: 4, L0750: 4, L0752: 4, S0436: 4, S6024: 3, S0212: 3, S0442: 3, S0354: 3, S0360: 3, H0733: 3, T0115: 3, H0327: 3, S0003: 3, T0042: 3, | 79-99, 118-134 |

H0494: 3, L0770: 3, L0775: 3, L0663: 3, H0144: 3, L0438: 3, S0406: 3, L0744: 3, L0439: 3, L0731: 3, H0661: 2, S0356: 2, H0728: 2, S0476: 2, H0619: 2, H0393: 2, S0222: 2, H0431: 2, H0587: 2, H0156: 2, H0098: 2, H0318: 2, S0474: 2, L0471: 2, H0014: 2, H0373: 2, S0022: 2, H0622: 2, H0313: 2, H0090: 2, H0551: 2, L0564: 2, S0438: 2, L0761: 2, L0662: 2, L0766: 2, L0659: 2, H0539: 2, H0521: 2, L0747: 2, S0031: 2, S0434: 2, L0592: 2, L0485: 2, L0581: 2, L0604: 2, S0026: 2, H0136: 2, H0542: 2, H0423: 2, H0624: 1, H0686: 1, H0713: 1, S0114: 1, H0662: 1, H0638: 1, S0420: 1, S0376: 1, H0729: 1, H0730: 1, H0722: 1, S0007: 1, S0046: 1, H0411: 1, S0278: 1, H0441: 1, H0461: 1, H0333: 1, H0574: 1, H0632: 1, L0622: 1, T0040: 1, T0060: 1, L0021: 1, H0147: 1,

H0036: 1, S0010: 1, S0346: 1, T0048: 1, H0421: 1, S0049: 1, T0110: 1, H0050: 1, S0050: 1, H0015: 1, H0051: 1, H0375: 1, S6028: 1, S0214: 1, H0328: 1, H0428: 1, H0039: 1, H0119: 1, H0031: 1, H0553: 1, H0032: 1, H0383: 1, H0316: 1, H0040: 1, T0067: 1, H0264: 1, H0413: 1, H0056: 1, H0560: 1, H0359: 1, S0144: 1, S0210: 1, L0520: 1, L0769: 1, L0638: 1, L0764: 1, L0773: 1, L0768: 1, L0387: 1, L0649: 1, L0389: 1, L0803: 1, L0805: 1, L0653: 1, L0655: 1, L0636: 1, L0517: 1, L0518: 1, L0809: 1, L0664: 1, L0665: 1, H0724: 1, H0520: 1, H0593: 1, S0126: 1, H0689: 1, H0711: 1, H0683: 1, S0330: 1, H0518: 1, S0152: 1, H0696: 1, S0044: 1, H0478: 1, H0626: 1, H0627: 1, S0390: 1, S0037: 1, L0786: 1, S0260: 1, H0445: 1, H0343: 1, H0595: 1, L0590: 1, H0667: 1,

| 280 | HMHBN86 | 784650 | 290 | 45 - 464 | 1695 | Ser-16 to Asp-23. | AR053: 38, AR096: 29, AR052: 27, AR039: 25, AR089: 12, AR055: 11, AR060: 10, AR104: 9, AR033: 8, AR061: 5 L0662: 2, L0751: 2, L0591: 2, H0265: 1, S0358: 1, H0331: 1, H0486: 1, H0286: 1, H0644: 1, H0090: 1, H0100: 1, S0142: 1, L0638: 1, L0648: 1, L0666: 1, L0748: 1 and S0398: 1. H0216: 1, H0422: 1, S0424: 1 and H0506: 1. | 83-104, 106-122, 31-52, 58-74 |
| 281 | HLTAZ78 | 784764 | 291 | 123 - 1055 | 1696 | Asp-25 to Glu-47, Thr-88 to Gln-99, Tyr-129 to Ser-135, Glu-143 to Ile-150, Pro-216 to Asp-221, Lys-287 to Ser-293. | AR104: 52, AR061: 49, AR060: 41, AR055: 34, AR033: 30, AR089: 29, AR052: 21, AR039: 20, AR053: 19, AR096: 15 L0731: 9, L0794: 8, L0749: 6, L0439: 5, L0662: 4, L0770: 3, L0803: 3, L0596: 3, L0717: 2, H0591: 2, L0761: 2, L0766: 2, L0659: 2, L0809: 2, L0663: 2, H0436: 2, L0748: 2, L0747: 2, L0779: 2, L0755: 2, L0758: 2, L0759: 2, L0591: 2, L0581: 2, H0423: | 185-204, 101-117 |

| 282 | HLDBM50 | 784930 | 292 | 1326 - 655 | 1697 | 2, H0170: 1, S0282: 1, H0661: 1, H0662: 1, H0638: 1, S0418: 1, S0356: 1, S0360: 1, S0046: 1, H0393: 1, H0486: 1, H0147: 1, H0318: 1, L0041: 1, H0562: 1, H0049: 1, H0266: 1, H0124: 1, H0598: 1, H0090: 1, L0475: 1, H0561: 1, S0382: 1, S0440: 1, H0509: 1, H0641: 1, S0002: 1, S0426: 1, L0769: 1, L0764: 1, L0804: 1, L0650: 1, L0805: 1, L0776: 1, L0789: 1, L0665: 1, H0520: 1, H0519: 1, H0666: 1, S0146: 1, S3014: 1, L0754: 1, L0757: 1, L0608: 1, S0026: 1, S0192: 1 and H0542: 1. AR061: 134, AR039: 81, AR096: 49, AR053: 35, AR104: 34, AR033: 32, AR060: 31, AR089: 30, AR052: 28, AR055: 18 L0766: 5, L0637: 2, L0748: 2, L0777: 2, H0170: 1, S0346: 1, H0560: 1, H0509: 1, S0002: 1, L0764: 1, L0804: 1, L0775: 1, L0789: 1, L0666: 1, S0380: | 10-37, 185-214, 39-63, 117-134 |

| 283 | HHEDH33 | 785013 | 293 | 104 - 415 | 1698 | Thr-10 to Asp-20, Ser-50 to Asn-55, Ala-71 to Asp-77. | AR039: 9, AR033: 8, AR104: 8, AR053: 6, AR096: 6, AR089: 6, AR052: 5, AR055: 5, AR060: 4, AR061: 2 L0521: 26, S0422: 22, H0170: 16, H0144: 16, L0748: 12, H0083: 11, H0624: 8, L0747: 7, H0171: 6, L0750: 6, T0042: 5, L0803: 5, L0749: 5, H0543: 5, H0581: 4, L0794: 4, L0529: 4, S0134: 3, H0486: 3, L0586: 3, H0013: 3, T0041: 3, L0517: 3, H0659: 3, L0777: 3, L0755: 3, L0589: 3, L0599: 3, H0542: 3, H0329: 2, H0645: 2, H0393: 2, H0427: 2, H0052: 2, H0530: 2, S0036: 2, H0591: 2, H0063: 2, L0598: 2, L0637: 2, L0662: 2, L0804: 2, L0655: 2, H0519: 2, L0740: 2, L0752: 2, L0759: 2, H0583: 1, S0282: 1, H0306: 1, H0402: 1, H0489: 1, H0580: 1, H0151: 1, H0370: 1, H0392: 1, 1, H0521: 1, L0779: 1 and L0755: 1. | Xq13.3-Xq21.2 | 303100, 305450, 309605, 314580 | 77-94 |

284	HAIDL86	785497	294	139 - 462	1699	Ile-42 to Gln-52.	H0497: 1, S0280: 1, S0010: 1, S0346: 1, L0105: 1, H0421: 1, H0009: 1, H0569: 1, H0050: 1, H0620: 1, H0354: 1, H0252: 1, H0328: 1, H0428: 1, H0090: 1, H0100: 1, H0202: 1, H0494: 1, UNKWN: 1, H0529: 1, L0520: 1, L0770: 1, L0774: 1, L0555: 1, L0606: 1, L0657: 1, L0659: 1, L0809: 1, L0544: 1, H0520: 1, H0547: 1, H0436: 1, H0576: 1, L0743: 1, L0744: 1, L0754: 1, L0786: 1, L0731: 1, L0758: 1, S0031: 1, H0595: 1, S0106: 1 and S0452: 1. AR053: 28, AR033: 20, AR052: 17, AR089: 12, AR096: 10, AR104: 10, AR060: 7, AR039: 5, AR055: 4, AR061: 4	1-26, 53-75, 83-99
285	HTEPF14	785958	295	61 - 588	1700	Ser-12 to Gln-19.	H0171: 1, S0132: 1, H0528: 1 and L0592: 1. AR055: 8, AR060: 5, AR052: 4, AR033: 4, AR061: 4, AR053: 4, AR096: 3, AR089: 3,	142-160

| 286 | HOEDD04 | 786659 | 296 | 363 - 803 | 1701 | Val-78 to Asp-85. | AR104: 3, AR039: 2, L0758: 2, S0134: 1, H0618: 1, H0038: 1 and H0616: 1. | AR052: 14, AR053: 8, AR055: 8, AR089: 8, AR096: 7, AR033: 7, AR060: 7, AR039: 5, AR061: 5, AR104: 4, S0126: 2, S0474: 1 and S0003: 1. | 85-104 |
| 287 | HODBK89 | 786830 | 297 | 150 - 449 | 1702 | Leu-28 to Arg-38. | | AR033: 57, AR089: 44, AR052: 41, AR053: 38, AR096: 35, AR104: 30, AR060: 27, AR039: 16, AR055: 16, AR061: 8, S0358: 8, L0766: 7, L0777: 7, L0731: 7, L0803: 4, L0659: 4, L0748: 4, L0751: 4, S0250: 3, L0775: 3, L0783: 3, L0809: 3, L0663: 3, H0305: 2, S0418: 2, S0360: 2, S0010: 2, L0763: 2, L0789: 2, H0520: 2, S3012: 2, L0750: 2, L0752: 2, L0755: 2, L0599: 2, L0362: 2, S0242: 2, H0717: 1, H0583: 1, H0656: 1, S0212: 1, S0420: 1, | 47-73 |

288	HMUAZ89 786878	298	182 - 529	1703	Met-1 to Ile-11, Asn-16 to Gly-33.	

S0376: 1, H0208: 1, S6026: 1, H0574: 1, H0632: 1, S0414: 1, H0559: 1, H0486: 1, H0013: 1, H0575: 1, S0474: 1, H0581: 1, H0570: 1, H0024: 1, H0014: 1, H0355: 1, H0328: 1, T0023: 1, H0553: 1, H0090: 1, H0591: 1, H0551: 1, H0488: 1, H0268: 1, H0623: 1, S0015: 1, H0509: 1, S0422: 1, H0529: 1, L0520: 1, L0761: 1, L0372: 1, L0626: 1, L0804: 1, L0650: 1, L0774: 1, L0653: 1, L0793: 1, L0666: 1, L0665: 1, H0547: 1, S0126: 1, H0684: 1, H0648: 1, S0152: 1, H0521: 1, S0406: 1, S0390: 1, L0745: 1, L0749: 1, L0756: 1, L0758: 1, L0588: 1, S0194: 1, H0543: 1, H0423: 1 and S0384: 1.

AR089: 1, AR033: 1, AR061: 0, AR104: 0, AR096: 0, AR055: 0, AR039: 0, AR060: 0, AR052: 0, L0740: 6, S0212: 3, H0265: 2, H0656: 2, H0581:

85-101, 41-57, 66-82

289	HSBBB92	787263	299	221 - 1144	1704	Arg-64 to His-70.	2, H0038: 2, H0529: 2, L0649: 2, S0027: 2, L0754: 2, L0777: 2, L0731: 2, L0599: 2, S0192: 2, S0134: 1, H0341: 1, H0663: 1, S0418: 1, S0045: 1, H0619: 1, H0497: 1, H0486: 1, L0471: 1, H0615: 1, H0553: 1, H0040: 1, H0551: 1, L0662: 1, L0766: 1, L0803: 1, L0654: 1, L0658: 1, H0435: 1, H0660: 1, S0390: 1, S3014: 1, S0206: 1, L0750: 1, L0752: 1, S0194: 1 and H0506: 1. AR104: 32, AR033: 24, AR096: 24, AR052: 23, AR053: 22, AR055: 20, AR039: 17, AR089: 15, AR060: 13, AR061: 9 L0758: 7, L0779: 5, H0038: 4, H0616: 2, L0151: 2, L0766: 2, H0125: 1, T0040: 1, H0050: 1, H0144: 1, H0698: 1, L0438: 1, H0521: 1, L0777: 1, L0752: 1, L0759: 1 and S0260: 1.	282-308		
290	HHBGJ75	787450	300	21 - 416	1705	Asp-26 to Arg-32.	AR039: 43, AR053: 31, AR033: 30, AR089: 24,		Xp11.23	300047, 300071,	63-89, 48-64

300110, 300600, 301000, 301000, 301830, 309470, 309500, 309610, 309850, 311050, 312060	AR052: 23, AR055: 21, AR096: 20, AR104: 20, AR060: 15, AR061: 12 L0741: 7, H0545: 6, L0770: 6, L0758: 5, S0045: 3, L0769: 3, L0794: 3, L0766: 3, L0805: 3, L0809: 3, H0689: 3, L0777: 3, L0592: 3, S0360: 2, H0156: 2, S0010: 2, H0009: 2, S0022: 2, H0135: 2, H0100: 2, H0538: 2, S0126: 2, L0759: 2, L0596: 2, L0588: 2, L0589: 2, S0040: 1, S0212: 1, H0484: 1, H0483: 1, H0255: 1, H0662: 1, S0442: 1, S0046: 1, H0351: 1, H0441: 1, H0431: 1, H0486: 1, H0052: 1, H0309: 1, H0546: 1, H0566: 1, L0471: 1, H0373: 1, S0388: 1, S0051: 1, H0083: 1, H0354: 1, H0594: 1, H0266: 1, H0288: 1, H0328: 1, H0615: 1, H0428: 1, H0030: 1, H0031: 1, H0628: 1, H0124: 1, S0036: 1, H0551: 1, T0004: 1, S0210: 1, L0369: 1, L0768: 1, L0803: 1, L0650: 1, L0776: 1,

						Description	Tissue expression	Antibody (AR)	Epitope
291	HDPRY22	787466	301	78 - 608	1706	Lys-26 to Glu-32, Leu-36 to Thr-43, Ala-64 to Trp-70.	L0518: 1, L0791: 1, H0682: 1, H0539: 1, S0044: 1, H0436: 1, S3012: 1, S0027: 1, L0740: 1, L0754: 1, L0747: 1, L0756: 1, L0780: 1, S0031: 1, L0599: 1, H0665: 1, S0192: 1, H0543: 1 and H0423: 1.	AR053: 1, AR055: 1, AR089: 1, AR033: 1, AR061: 0, AR096: 0, AR039: 0, AR104: 0, AR052: 0, AR060: 0	91-121, 77-93
292	HBBBC20	787587	302	570 - 1073	1707		H0543: 2, H0656: 1, H0341: 1, S0045: 1, H0039: 1, S0210: 1 and H0521: 1. S0007: 2, T0040: 1, S0010: 1, H0374: 1, L0157: 1, H0488: 1, H0519: 1 and H0539: 1.	AR096: 8, AR033: 7, AR053: 6, AR060: 5, AR089: 5, AR052: 5, AR039: 3, AR055: 2, AR061: 2, AR104: 1	80-97, 132-148, 111-127
293	HMELW08	788955	303	105 - 1220	1708	Tyr-21 to Lys-28, Asp-51 to Asn-61, Asp-83 to Val-98, Phe-157 to Gln-165,		AR055: 10, AR096: 6, AR060: 6, AR033: 6, AR052: 5, AR089: 5, AR061: 4, AR053: 4,	248-264, 114-130

| 294 | HTPDL90 | 789115 | 304 | 150 - 1235 | 1709 | Asn-198 to Asn-205, Arg-241 to Gly-247, Thr-266 to Leu-272, Gln-288 to Lys-299, Pro-348 to Gly-354. | AR104: 3, AR039: 3 L0439: 4, H0553: 3, S0414: 2, H0031: 2, H0625: 2, H0529: 2, H0144: 2, S0126: 2, L0742: 2, L0744: 2, L0779: 2, H0717: 1, H0656: 1, S0222: 1, H0333: 1, H0013: 1, S0010: 1, T0110: 1, H0050: 1, T0010: 1, S6028: 1, H0266: 1, S0318: 1, S0316: 1, S0003: 1, H0428: 1, H0551: 1, H0100: 1, T0042: 1, S0344: 1, H0538: 1, L0766: 1, L0805: 1, L0665: 1, H0519: 1, H0690: 1, H0670: 1, S0380: 1, L0743: 1, L0756: 1, L0731: 1, S0026: 1, S0192: 1, S0276: 1, H0423: 1 and L0698: 1. | AR039: 69, AR096: 52, AR089: 45, AR052: 34, AR053: 32, AR060: 21, AR055: 15, AR104: 13, AR033: 12, AR061: 8 | 190-207, 14-30, 288-304, 144-160 |
| 295 | HTACZ08 | 789276 | 305 | 1095 - 82 | 1710 | Pro-15 to Gly-23, Glu-59 to Ser-64, Leu-100 to Gln-106, | | AR055: 11, AR061: 6, AR060: 6, AR033: 5, AR089: 4, AR052: 4, | 161-177, 276-292 |

| 296 | IIAGEC91 | 789377 | 306 | 48 - 377 | 1711 | Arg-134 to Glu-139, Met-219 to Trp-225, Ile-255 to Asp-260. | AR096: 3, AR104: 3, AR053: 3, AR039: 2 L0766: 4, L0749: 4, L0804: 3, L0751: 3, H0486: 2, H0069: 2, H0012: 2, H0620: 2, H0634: 2, H0616: 2, L0771: 2, H0521: 2, L0747: 2, H0583: 1, S0212: 1, H0255: 1, S0356: 1, S0376: 1, H0619: 1, H0609: 1, H0613: 1, H0586: 1, H0618: 1, H0373: 1, H0239: 1, H0213: 1, H0038: 1, H0040: 1, H0087: 1, S0426: 1, L0763: 1, L0769: 1, L0761: 1, L0646: 1, L0803: 1, L0774: 1, L0775: 1, L0651: 1, L0526: 1, L0790: 1, L0666: 1, L0665: 1, S0126: 1, H0539: 1, S0406: 1, L0750: 1, L0756: 1, L0779: 1, L0757: 1, L0758: 1 and S0194: 1. | AR096: 18, AR039: 18, AR089: 16, AR060: 12, AR104: 11, AR053: 10, AR052: 10, AR033: 9, AR055: 9, AR061: 5 S0114: 2, S0360: 1, H0619: 1, S0222: 1, H0392: | 52-72, 31-50, 75-95, 9-28 |

213

297	HTTCB23	789555	307	1698 - 10	1712			451-468, 2-18, 474-490, 306-322
					AR039: 45, AR096: 22, AR104: 20, AR033: 19, AR053: 18, AR089: 16, AR055: 15, AR060: 14, AR052: 13, AR061: 8, L0666: 5, L0748: 5, L0747: 4, L0768: 3, H0521: 3, L0750: 3, L0755: 3, L0608: 3, H0486: 2, H0575: 2, H0052: 2, H0457: 2, H0024: 2, H0090: 2, L0631: 2, L0766: 2, L0665: 2, L0438: 2, H0547: 2, H0435: 2, H0658: 2, H0696: 2, H0436: 2, H0170: 1, H0650: 1, H0656: 1, H0638: 1, S0420: 1, H0607: 1, H0013: 1, H0618: 1, H0046: 1, S0250: 1, S0003: 1, H0688: 1, T0023: 1, S0364: 1, H0591: 1, H0040: 1, H0264: 1, H0268: 1, H0494: 1, H0509: 1, H0538: 1, H0529: 1, L0763: 1, L0644: 1, L0662: 1, L0775: 1, L0659: 1, L0783: 1, L0809: 1,	Trp-105 to Thr-116, Trp-155 to Gln-162, Gln-172 to Asp-177, Gln-226 to Glu-232, Gln-254 to Glu-260, Glu-296 to Tyr-305, Thr-338 to Val-344, Leu-377 to Ile-384, Asp-413 to Lys-419, Cys-436 to Ile-443, Thr-490 to Gln-496, Glu-508 to Ser-514, Lys-525 to Glu-537.	1, S0010: 1, H0538: 1, L0527: 1, L0657: 1, L0659: 1, H0435: 1, H0658: 1, H0543: 1 and L0600: 1.

No.								
298	HYAAL21	789607	308	99 - 1217	1713	L0789: 1, L0664: 1, H0519: 1, H0648: 1, S0378: 1, S0380: 1, H0522: 1, L0779: 1, L0759: 1, H0543: 1 and H0423: 1.	AR039: 33, AR089: 18, AR053: 17, AR096: 17, AR033: 14, AR052: 14, AR104: 13, AR060: 11, AR055: 7, AR061: 5 H0583: 1 and S0216: 1.	82-98
299	HTLHY91	789660	309	121 - 576	1714		AR055: 3, AR061: 3, AR033: 3, AR096: 3, AR060: 2, AR089: 2, AR052: 1, AR053: 1, AR039: 1, AR104: 0 H0618: 3, H0253: 3, L0803: 2, L0748: 2, L0779: 2, L0758: 2, H0550: 1, T0060: 1, H0544: 1, H0041: 1, S0368: 1, H0038: 1, H0509: 1, L0363: 1, L0768: 1, L0657: 1, L0809: 1, L0663: 1, H0684: 1 and S0152: 1.	116-134
300	HUTAD91	789688	310	4 - 513	1715	Gly-42 to Gly-47, Asn-64 to Asn-74, Ser-102 to Val-108, Pro-114 to Leu-121.	AR055: 20, AR052: 18, AR033: 17, AR104: 16, AR039: 15, AR053: 14, AR060: 13, AR096: 9,	84-100

| 301 | HKGDE58 | 790091 | 311 | 28 - 531 | 1716 | Pro-5 to Lys-16, Ser-21 to Leu-26, Trp-43 to Cys-53, Glu-74 to Pro-81, Met-86 to Val-91. | AR089: 8, AR061: 3, L0731: 6, L0770: 3, H0295: 2, L0375: 2, L0756: 2, H0706: 1, H0212: 1, S0440: 1, L0369: 1, L0763: 1, L0769: 1, L0639: 1, L0646: 1, L0764: 1, L0774: 1, L0805: 1, L0542: 1, L0783: 1, L0666: 1, L0664: 1, L0565: 1, H0648: 1, S0027: 1, L0740: 1, L0745: 1, L0749: 1, L0750: 1, L0752: 1, L0599: 1 and H0423: 1. | AR096: 3, AR089: 2, AR060: 2, AR104: 2, AR053: 2, AR055: 2, AR033: 1, AR052: 1, AR061: 1, AR039: 0 H0538: 1, L0803: 1 and L0731: 1. | 114-130 |
| 302 | HBIAW78 | 790219 | 312 | 50 - 1051 | 1717 | Asp-41 to Asn-47, Ser-57 to Lys-63, Glu-91 to Gly-98, Asp-108 to Cys-117, Lys-177 to Glu-187, Phe-204 to Asp-221. | | AR033: 7, AR096: 5, AR052: 4, AR060: 4, AR061: 3, AR089: 3, AR055: 3, AR053: 2, AR104: 2, AR039: 1 H0521: 4, H0656: 3, H0542: 2, L0615: 1, S0045: 1, H0643: 1, H0013: 1, | 235-252, 133-149 |

| 303 | HTOIC11 | 790634 | 313 | 89 - 853 | 1718 | | H0575: 1, H0581: 1, H0421: 1, S0049: 1, H0052: 1, T0103: 1, H0050: 1, H0373: 1, H0051: 1, H0083: 1, H0375: 1, H0266: 1, H0039: 1, H0031: 1, H0644: 1, H0090: 1, H0591: 1, H0038: 1, H0412: 1, H0623: 1, H0494: 1, S0150: 1, S0344: 1, S0210: 1, S0422: 1, H0519: 1, H0522: 1, S3012: 1, L0588: 1 and L0591: 1. | | | 50-73, 167-183 |
| 304 | HNTRM140 | 790790 | 314 | 141 - 446 | 1719 | Phe-6 to Leu-14, Lys-30 to Asp-37. | AR033: 5, AR089: 4, AR061: 3, AR060: 2, AR052: 2, AR055: 2, AR053: 2, AR039: 1, AR096: 0, AR104: 0 L0794: 4, L0766: 2, L0777: 2, H0549: 1, H0093: 1, H0135: 1, H0087: 1, H0264: 1, L0769: 1, L0804: 1, L0774: 1, L0783: 1, L0809: 1, L0787: 1, L0789: 1 and L0666: 1. AR039: 4, AR096: 3, AR089: 3, AR104: 3, AR033: 2, AR060: 2, AR055: 2, AR052: 2, AR061: 2, AR053: 2 | 1p31 | 180069, 180069, 180069, 201450, 248610, | 74-90, 12-28 |

305	HSKAY30	790807	315	707 - 1645	1720	Pro-98 to Phe-110, Ser-114 to Asp-123, Lys-152 to Arg-157, Arg-235 to Gln-250.	L0770: 4, H0551: 2, L0805: 2, H0593: 2, H0658: 2, L0439: 2, L0747: 2, H0431: 1, H0156: 1, H0251: 1, H0135: 1, L0776: 1, L0537: 1, L0790: 1, H0144: 1, L0352: 1, H0547: 1, S0037: 1, S0206: 1, L0755: 1 and L0758: 1. / AR055: 7, AR096: 5, AR060: 4, AR052: 4, AR089: 3, AR033: 3, AR061: 3, AR053: 2, AR104: 2, AR039: 1 L0527: 2, H0208: 1, H0635: 1, S0250: 1, H0622: 1, H0644: 1, H0551: 1, L0766: 1, H0519: 1, H0521: 1, S0027: 1 and H0136: 1.	160-188, 20-47, 200-223, 57-84, 132-150, 2-18	600309, 601676, 602522
306	HSSJN12	791489	316	149 - 505	1721	Gly-33 to Arg-38.	AR055: 14, AR033: 11, AR053: 11, AR089: 10, AR052: 9, AR096: 8, AR039: 8, AR060: 8, AR061: 7, AR104: 7 H0620: 7, L0731: 6, L0751: 4, H0599: 3, L0157: 3, H0135: 3, L0747: 3, L0779: 3, S0222: 2, H0333: 2, H0012: 2, H0188: 2,	95-113, 38-54	

| 307 | HTFBG93 | 791501 | 317 | 136 - 483 | 1722 | Ser-16 to Gly-22. | H0213: 2, H0553: 2, L0142: 2, L0519: 2, L0791: 2, H0690: 2, L0743: 2, L0744: 2, L0439: 2, L0749: 2, L0752: 2, L0759: 2, L0588: 2, S6024: 1, S0116: 1, H0484: 1, S0418: 1, L0005: 1, H0645: 1, H0549: 1, H0550: 1, H0156: 1, T0082: 1, H0052: 1, H0545: 1, H0041: 1, H0050: 1, S0388: 1, S0250: 1, H0048: 1, H0424: 1, H0606: 1, S0366: 1, H0059: 1, S0038: 1, H0100: 1, S0112: 1, H0494: 1, H0646: 1, L0769: 1, L0651: 1, L0783: 1, L0809: 1, L0664: 1, L0665: 1, S0328: 1, H0521: 1, S0027: 1, L0750: 1, L0755: 1, L0757: 1 and H0445: 1. | AR033: 19, AR089: 15, AR053: 9, AR039: 9, AR055: 9, AR096: 8, AR060: 8, AR052: 7, AR061: 7, AR104: 6 | 53-69 |
| 308 | HCHOO84 | 791776 | 318 | 196 - 921 | 1723 | Arg-56 to Lys-73, Arg-86 to Asp-92, | | AR033: 3, AR096: 3, AR053: 3, AR052: 3, | 157-173 |

Glu-103 to Arg-109, Ser-146 to His-154, Pro-190 to Ile-195, Val-212 to Cys-218.	AR055: 2, AR104: 2, AR060: 2, AR089: 1, AR039: 1, AR061: 1 L0438: 6, L0439: 6, L0755: 4, L0776: 3, L0754: 3, H0542: 3, H0556: 2, L0157: 2, H0553: 2, L0770: 2, L0769: 2, L0805: 2, L0748: 2, L0747: 2, L0749: 2, L0750: 2, L0779: 2, L0731: 2, S0242: 2, H0265: 1, L0426: 1, H0341: 1, H0484: 1, S0418: 1, S0046: 1, H0393: 1, S0278: 1, S0222: 1, H0013: 1, H0635: 1, H0427: 1, H0156: 1, H0575: 1, L2250: 1, H0046: 1, H0009: 1, H0050: 1, L0471: 1, H0266: 1, H0328: 1, H0428: 1, H0644: 1, H0212: 1, H0591: 1, H0616: 1, H0412: 1, T0041: 1, S0438: 1, H0647: 1, S0426: 1, L0771: 1, L0636: 1, L0789: 1, L4501: 1, L0666: 1, L0665: 1, H0520: 1, H0519: 1, H0593: 1, H0435: 1, H0658: 1, S0152: 1, H0214: 1, H0478: 1, S0027: 1, S0028: 1, L0756: 1,

| 309 | HE8OX93 | 791839 | 319 | 171 - 677 | 1724 | Pro-9 to Pro-24, Arg-55 to Gln-71, Tyr-90 to Val-95, Pro-97 to Arg-102, Val-105 to Asn-118. | AR055: 14, AR061: 10, AR060: 10, AR039: 9, AR052: 7, AR096: 7, AR089: 6, AR033: 6, AR104: 5, AR053: 5 H0624: 1, H0171: 1 and H0013: 1. | L0752: 1, H0343: 1 and S0436: 1. | 137-154 |
| 310 | HOFMV90 | 792393 | 320 | 24 - 1412 | 1725 | Asp-3 to Ile-14, Asp-30 to Trp-38, Lys-43 to Thr-52, Pro-54 to Glu-61, Arg-116 to Gly-121, Asn-146 to Arg-157, Pro-259 to Phe-264, Asp-271 to Glu-276, Ser-285 to Asn-293, Ala-358 to Ala-366, Leu-370 to Gln-375, Glu-407 to Thr-412, Ile-421 to Leu-429. | AR096: 3, AR052: 3, AR053: 3, AR033: 3, AR039: 2, AR089: 2, AR104: 2, AR060: 1, AR061: 1, AR055: 1 L0439: 11, L0666: 5, L0740: 5, H0580: 4, H0591: 4, H0519: 4, S0476: 3, L0471: 3, H0553: 3, L0770: 3, L0803: 3, L0752: 3, L0592: 3, S0418: 2, H0013: 2, H0046: 2, H0373: 2, S0003: 2, H0090: 2, H0551: 2, H0412: 2, S0386: 2, L0775: 2, L0655: 2, L0663: 2, L0665: 2, H0547: 2, H0660: 2, H0521: 2, L0748: 2, L0751: 2, L0754: 2, L0747: 2, L0731: 2, L0757: 2, L0759: 2, L0608: 2, | | 308-325, 64-80, 211-227, 158-174 |

H0543: 2, H0422: 2, H0171: 1, H0556: 1, H0686: 1, S0040: 1, S0342: 1, H0713: 1, H0717: 1, H0657: 1, S0212: 1, H0125: 1, S0356: 1, S0358: 1, S0046: 1, H0619: 1, H0411: 1, S0222: 1, H0415: 1, H0497: 1, H0486: 1, T0040: 1, L0586: 1, H0575: 1, S0474: 1, H0581: 1, H0052: 1, T0103: 1, H0597: 1, H0545: 1, L0041: 1, L0157: 1, H0571: 1, H0057: 1, H0083: 1, H0266: 1, S0214: 1, H0252: 1, H0040: 1, H0379: 1, H0623: 1, T0042: 1, H0560: 1, H0625: 1, S0440: 1, H0641: 1, S0422: 1, S0426: 1, L0763: 1, L0800: 1, L0766: 1, L5564: 1, L0804: 1, L0606: 1, L0657: 1, L0659: 1, L0809: 1, L0792: 1, L0532: 1, L0664: 1, H0693: 1, L0352: 1, H0435: 1, H0658: 1, H0672: 1, S0330: 1, S0380: 1, S0152: 1, S0027: 1, S0028: 1, L0777: 1, L0755: 1, L0758: 1, S0434: 1, S0436: 1,

311	HTEFV95	792575	321	61 - 573	1726	Glu-94 to Pro-99.	L0601: 1, L0366: 1, H0542: 1, H0423: 1 and H0293: 1. AR055: 13, AR052: 9, AR089: 9, AR053: 8, AR033: 8, AR060: 7, AR096: 7, AR061: 6, AR104: 3, AR039: 2 H0038: 2, S0010: 1, H0252: 1, T0023: 1 and H0616: 1.	107-123
312	HETJA44	792627	322	813 - 148	1727	Glu-16 to Thr-24, Ser-32 to Val-42.	AR055: 8, AR052: 6, AR060: 5, AR096: 5, AR053: 4, AR033: 4, AR089: 4, AR061: 4, AR039: 3, AR104: 2 H0046: 7, S0314: 2, L0751: 2, L0754: 2, H0171: 1, S0222: 1, H0574: 1, H0318: 1, H0194: 1, H0477: 1, S0422: 1, L0373: 1, L0768: 1, L0776: 1, L0655: 1, L0666: 1, L0747: 1, L0780: 1, L0752: 1, S0026: 1 and S0424: 1.	182-198
313	HE2DR93	792628	323	72 - 374	1728	Val-13 to Asn-21, His-24 to Leu-29, Pro-32 to Pro-37, Arg-43 to Leu-48, Cys-83 to Met-94.	AR055: 6, AR053: 3, AR060: 3, AR096: 3, AR052: 3, AR061: 3, AR089: 3, AR033: 3, AR104: 2, AR039: 1	56-82

| 314 | HAJBT15 | 792938 | 324 | 41 - 610 | 1729 | Glu-7 to Arg-22. | AR053: 11, AR039: 10, AR052: 10, AR055: 10, AR033: 10, AR089: 9, AR096: 7, AR060: 5, AR104: 5, AR061: 4 H0052: 4, S0049: 3, H0135: 3, L0803: 3, L0804: 3, L0758: 3, H0171: 2, L0764: 2, L0771: 2, L0775: 2, L0439: 2, L0750: 2, L0779: 2, L0731: 2, L0759: 2, L0603: 2, H0624: 1, H0656: 1, S0442: 1, H0619: 1, H0550: 1, H0370: 1, H0592: 1, H0333: 1, L0623: 1, H0013: 1, H0156: 1, H0590: 1, H0318: 1, S0474: 1, H0546: 1, L0163: 1, H0267: 1, H0179: 1, L0456: 1, H0090: 1, H0077: 1, H0264: 1, S0038: 1, H0494: 1, H0560: 1, H0561: 1, L0763: 1, L0770: 1, L0769: 1, L0772: 1, L0800: 1, L0645: 1, L0662: 1, L0768: 1, L0766: 1, L0774: 1, L0375: 1, L0809: 1, L0789: | H0170: 1, H0620: 1, L0774: 1, L0744: 1 and L0748: 1. | 126-143 |

#										
315	HDBAD63	793148	325	109 - 606	1730	Met-1 to Arg-15, Asp-58 to Ala-63, Pro-67 to Arg-73.	AR096: 21, AR061: 16, AR089: 11, AR052: 7, AR039: 5, AR055: 4, AR104: 4, AR053: 4, AR060: 4, AR033: 4 H0265: 3, H0556: 3, H0657: 3, H0059: 3, H0255: 2, H0661: 2, L0750: 2, H0662: 1, H0638: 1, H0393: 1, H0101: 1, T0082: 1, T0110: 1, H0578: 1, H0083: 1, H0617: 1, H0606: 1, T0042: 1, S0142: 1, H0144: 1, H0547: 1, H0576: 1, S3014: 1, L0747: 1, L0777: 1, L0755: 1 and H0506: 1.	1, L0666: 1, L0663: 1, H0144: 1, L0438: 1, H0547: 1, H0593: 1, S0126: 1, H0670: 1, S0328: 1, S0330: 1, H0539: 1, H0521: 1, H0696: 1, H0627: 1, L0748: 1, L0749: 1, L0756: 1, L0786: 1, L0780: 1, L0752: 1, H0445: 1, L0605: 1 and L0592: 1.		78-94, 124-140, 37-53, 97-113
316	HE8QH85	793204	326	170 - 532	1731	Glu-34 to Asp-39.	AR089: 20, AR033: 19, AR104: 15, AR060: 15, AR061: 12, AR039: 11,		Xp11.4-p11.1	300047, 300062, 300600,	98-115, 62-78, 40-56

309470, 309500, 309610, 310500, 310600, 310600, 311050, 312060

AR055: 10, AR096: 8, AR053: 7, AR052: 7, H0547: 25, H0144: 14, H0619: 13, H0135: 13, H0539: 13, L0747: 13, H0013: 12, L0592: 10, H0024: 9, L0769: 8, L0754: 8, H0012: 7, H0424: 7, H0100: 7, L0731: 7, H0624: 6, H0333: 6, L0774: 6, L0665: 6, H0519: 6, S0027: 6, L0759: 6, L0599: 6, S0420: 5, L0471: 5, H0615: 5, H0124: 5, H0520: 5, L0758: 5, L0594: 5, L0595: 5, H0170: 4, H0393: 4, S0278: 4, H0052: 4, H0545: 4, H0046: 4, H0050: 4, H0620: 4, S0051: 4, H0594: 4, H0553: 4, S0036: 4, H0494: 4, L0776: 4, L0666: 4, L0664: 4, S0126: 4, L0748: 4, L0751: 4, L0750: 4, L0605: 4, L0593: 4, S0192: 4, H0543: 4, S0418: 3, S0358: 3, S0046: 3, H0586: 3, H0486: 3, H0156: 3, H0581: 3, H0251: 3, H0546: 3, H0081: 3, H0015: 3, H0083: 3, H0687: 3,

S0022: 3, H0328: 3, H0428: 3, H0551: 3, L0772: 3, L0764: 3, L0521: 3, L0662: 3, L0768: 3, L0809: 3, S0380: 3, L0439: 3, S0212: 2, H0483: 2, S0356: 2, S0007: 2, H0351: 2, H0610: 2, H0587: 2, H0574: 2, H0318: 2, H0544: 2, H0009: 2, H0373: 2, T0010: 2, S6028: 2, H0266: 2, H0252: 2, H0032: 2, H0673: 2, H0087: 2, L0351: 2, H0641: 2, S0210: 2, L0369: 2, L0762: 2, L0803: 2, L0775: 2, L0651: 2, L0783: 2, L0519: 2, L0565: 2, H0593: 2, H0690: 2, S0152: 2, H0478: 2, S0037: 2, S3014: 2, S0028: 2, S0032: 2, L0756: 2, L0752: 2, L0587: 2, S0196: 2, H0171: 1, H0395: 1, S0040: 1, H0295: 1, H0294: 1, S0114: 1, S0430: 1, H0484: 1, H0661: 1, H0664: 1, H0662: 1, H0176: 1, S0442: 1, S0354: 1, S0376: 1, S0360: 1, H0208: 1, S0045: 1, H0645: 1, S0300: 1, L0717: 1,

H0261: 1, H0549: 1, H0550: 1, S0222: 1, S0220: 1,
H0441: 1, H0403: 1, H0438: 1, H0632: 1, T0039: 1,
H0244: 1, H0250: 1, H0069: 1, H0427: 1, H0575: 1,
H0374: 1, H0196: 1, H0194: 1, H0085: 1, H0597: 1,
H0327: 1, H0150: 1, H0172: 1, H0123: 1, H0023: 1,
H0200: 1, H0051: 1, H0275: 1, H0356: 1, H0354: 1,
H0271: 1, H0286: 1, H0039: 1, T0006: 1, H0033: 1,
H0604: 1, H0644: 1, L0142: 1, H0628: 1, H0617: 1,
H0383: 1, H0674: 1, H0163: 1, H0634: 1, H0272: 1,
H0268: 1, H0412: 1, H0413: 1, S0038: 1, T0041: 1,
T0042: 1, H0561: 1, S0150: 1, S0144: 1, S0142: 1,
L0638: 1, L0637: 1, L0374: 1, L0773: 1, L0794: 1,
L0649: 1, L0650: 1, L0375: 1, L0378: 1, L0654: 1,
L0661: 1, L0657: 1, L0634: 1, L0659: 1, L0636: 1,
L0647: 1, L0367: 1, L0663: 1, H0701: 1, L0438: 1,

| 317 | IIAICU52 | 793373 | 327 | 162 - 662 | 1732 | Arg-14 to Ser-23, Arg-50 to Trp-60. | AR052: 187, AR053: 127, AR096: 125, AR055: 118, AR089: 96, AR104: 82, AR061: 73, AR060: 73, AR039: 71, AR033: 64 S0418: 2, S0007: 2, S0132: 2, H0559: 2, H0520: 2, H0547: 2, H0650: 1, H0483: 1, S0046: 1, S0476: 1, H0012: 1, H0604: 1, S0366: 1, H0551: 1, S0150: 1, S0378: 1, S0152: 1, S3014: 1, L0439: 1 and S0194: 1. | H0689: 1, H0683: 1, H0670: 1, H0660: 1, H0672: 1, S0328: 1, S0330: 1, H0521: 1, S0406: 1, H0555: 1, H0436: 1, L0611: 1, S0390: 1, L0779: 1, L0780: 1, L0757: 1, H0707: 1, L0589: 1, S0011: 1, H0668: 1, H0653: 1, H0667: 1, H0542: 1, L0469: 1, H0422: 1 and H0506: 1. | 132-148 |
| 318 | HE6BJ49 | 793433 | 328 | 59 - 469 | 1733 | Met-1 to Ala-6, Arg-16 to Thr-28, Leu-34 to Thr-49, Ile-97 to Ile-104, Glu-129 to Arg-137. | AR039: 70, AR053: 41, AR104: 39, AR052: 38, AR096: 36, AR033: 36, AR055: 34, AR060: 29, AR089: 24, AR061: 16 | | 65-81 |

| 319 | HE8TJ39 | 793553 | 329 | 259 - 615 | 1734 | Arg-86 to Val-91. | L0748: 7, H0039: 5, H0619: 4, L0439: 4, S0222: 3, H0494: 3, L0438: 3, H0012: 2, H0032: 2, H0547: 2, L0740: 2, L0759: 2, H0556: 1, S0134: 1, H0580: 1, S0278: 1, H0415: 1, H0586: 1, T0109: 1, H0013: 1, H0575: 1, S0010: 1, H0581: 1, H0046: 1, L2244: 1, L0471: 1, T0010: 1, H0354: 1, H0687: 1, H0031: 1, H0553: 1, H0644: 1, H0400: 1, H0591: 1, H0038: 1, H0040: 1, H0551: 1, H0623: 1, H0100: 1, S0440: 1, S0344: 1, L0387: 1, L0766: 1, L0790: 1, H0520: 1, H0519: 1, H0660: 1, S0152: 1, S0044: 1, H0436: 1, L0751: 1, L0731: 1, S0031: 1, L0592: 1, S0242: 1 and H0423: 1. AR033: 5, AR053: 3, AR052: 3, AR096: 3, AR089: 3, AR061: 3, AR060: 2, AR104: 2, AR039: 2, AR055: 1 L0777: 3, H0013: 2 and L0749: 1. | 65-85, 5-21 |

| 320 | HFIBG92 | 793632 | 330 | 104 - 481 | 1735 | Asp-29 to Thr-34, Val-55 to Gly-65, Glu-114 to Ala-119. | AR052: 3, AR053: 3, AR096: 3, AR055: 2, AR033: 1, AR060: 1, AR089: 1, AR061: 1, AR104: 1, AR039: 0 H0556: 5, H0265: 2, S0418: 2, H0575: 2, L0659: 2, S0328: 2, L0731: 2, L0759: 2, S0192: 2, H0295: 1, T0049: 1, S0046: 1, S0476: 1, S0278: 1, H0486: 1, H0250: 1, H0156: 1, H0544: 1, L0041: 1, H0081: 1, H0266: 1, H0264: 1, T0041: 1, T0042: 1, H0561: 1, L0639: 1, L0637: 1, L0662: 1, L0767: 1, L0768: 1, L0509: 1, L0382: 1, L2269: 1, L0663: 1, S0310: 1, H0672: 1, S0380: 1, H0521: 1, S0037: 1, S0027: 1, L0747: 1, L0777: 1, S0260: 1, S0434: 1, S0436: 1, L0592: 1, H0543: 1 and H0008: 1. | 96-112 |
| 321 | HDPBJ94 | 794297 | 331 | 39 - 425 | 1736 | Gly-10 to Pro-19, Pro-25 to Arg-33, Ser-43 to Gly-52. | AR055: 3, AR052: 3, AR089: 2, AR033: 2, AR053: 2, AR060: 2, AR096: 1, AR061: 1, AR104: 1, AR039: 0 | 97-117 |

322	HPIAXI1	794354	332	342 - 1259	1737		S0116: 1, L0768: 1, L0656: 1, H0521: 1, L0070: 1, L0439: 1 and L0779: 1.	AR055: 11, AR061: 9, AR033: 9, AR089: 8, AR052: 8, AR104: 7, AR096: 7, AR053: 6, AR060: 5, AR039: 3 H0616: 1, S0150: 1 and L0581: 1.	254-282, 224-246, 119-140, 160-179, 200-217
323	HBGMW9 5	795325	333	1 – 300	1738	Arg-8 to Gly-17.		AR053: 1, AR055: 1, AR089: 1, AR104: 1, AR096: 0, AR052: 1, AR033: 1, AR061: 1, AR060: 1, AR039: 0 H0255: 1, S0045: 1, S0278: 1, H0181: 1, H0617: 1, S0428: 1, S0053: 1, S0028: 1 and L0597: 1.	40-61, 65-81
324	HUSIJ83	796477	334	883 - 578	1739	Phe-2 to Gln-7.		AR039: 18, AR033: 11, AR053: 10, AR089: 9, AR052: 8, AR096: 8, AR055: 7, AR060: 6, AR104: 5, AR061: 5 L0666: 8, L0766: 4, H0038: 3, L0664: 3, L0665: 3, H0265: 2, S0360: 2, H0046: 2, L0663: 2, H0520: 2, L0748: 2, L0751: 2,	75-99

325	HBGDP38	796622	335	55 - 495	1740		

AR033: 2, AR096: 2, AR104: 1, AR060: 1, AR089: 1, AR061: 0, AR052: 0, AR055: 0, AR053: 0, AR039: 0 S0028: 3, S0001: 2, S0356: 2, H0617: 2, L0809: 2, L0439: 2, L0731: 2, L0361: 2, S0040: 1, S0045: 1, H0619: 1, S0278: 1, H0250: 1, H0156: 1, H0231: 1, H0181: 1, L0456: 1, L0375: 1, L0783: 1, L0663: 1, H0144: 1, L0438: 1, S0390: 1

L0749: 2, L0779: 2, L0777: 2, L0758: 2, H0341: 1, H0638: 1, S0356: 1, S0358: 1, S0045: 1, H0261: 1, S0222: 1, H0632: 1, H0427: 1, H0597: 1, T0010: 1, H0266: 1, S0003: 1, H0412: 1, H0561: 1, S0002: 1, L0640: 1, L0638: 1, L0646: 1, L0771: 1, L0768: 1, L0375: 1, L0651: 1, L0776: 1, L0659: 1, L0438: 1, H0547: 1, H0658: 1, L0611: 1, S3014: 1, L0439: 1, L0754: 1, L0747: 1, L0750: 1, L0755: 1 and S0026: 1.

112-128, 72-88

326	HTXEC55	798103	336	195 - 785	1741	Trp-7 to Gly-21, Arg-24 to Glu-31, Ala-69 to Trp-80, Arg-129 to Pro-135, Ser-142 to Phe-147, Phe-151 to Gly-159.	1, L0747: 1, L0759: 1 and S0031: 1. AR053: 19, AR096: 16, AR052: 16, AR055: 9, AR089: 8, AR061: 6, AR060: 6, AR033: 6, AR039: 3, AR104: 2 L0777: 5, H0265: 2, H0556: 2, S0358: 2, L0351: 2, L0769: 2, L0766: 2, L0666: 2, L0748: 2, L0439: 2, H0657: 1, H0255: 1, H0637: 1, H0549: 1, S0222: 1, H0586: 1, H0427: 1, H0597: 1, H0545: 1, H0012: 1, S0214: 1, H0424: 1, H0213: 1, H0628: 1, H0090: 1, H0412: 1, L0637: 1, L0800: 1, L0644: 1, L0662: 1, L0381: 1, L0776: 1, L0655: 1, L0659: 1, L0809: 1, L0790: 1, L0792: 1, L0665: 1, H0547: 1, S0126: 1, H0435: 1, H0670: 1, S0432: 1, L0749: 1, L0758: 1, H0543: 1, H0423: 1 and H0422: 1.	46-64, 111-127, 85-101
327	HFXGI63	799513	337	1879 - 2349	1742	Ala-3 to Thr-27, Arg-29 to Ser-35,	AR055: 9, AR060: 5, AR061: 4, AR033: 3,	62-78, 87-103

328	HAMGW19	799889	338	119 - 475	1743	Gly-43 to Trp-62, Gln-107 to Gln-114, Arg-132 to Lys-140.	AR052: 3, AR089: 3, AR096: 2, AR053: 2, AR104: 2, AR039: 1 S0222: 2, H0100: 2, L0438: 2, S0114: 1, S0001: 1, H0208: 1, H0123: 1, H0012: 1, H0620: 1, S6028: 1, H0328: 1, H0413: 1, S0038: 1, T0042: 1, L0439: 1 and L0593: 1.	89-105
329	HDPTA89	800344	339	173 - 949	1744	Thr-4 to Pro-28, Pro-51 to His-62, Pro-83 to Thr-91, Phe-100 to Trp-105, Ile-167 to Gln-182.	AR096: 1, AR055: 1, AR089: 1, AR061: 1, AR033: 1, AR052: 0, AR053: 0, AR060: 0, AR104: 0, AR039: 0 H0560: 2 AR096: 1, AR052: 1, AR104: 1, AR060: 1, AR089: 1, AR033: 0, AR055: 0, AR061: 0, AR053: 0, AR039: 0 L0777: 11, L0751: 10, L0769: 7, L0758: 6, L0766: 5, H0617: 4, L0771: 4, L0776: 4, L0439: 4, L0757: 4, L0759: 4, H0253: 3, H0494: 3, L0761: 3, H0521: 3, L0754: 3, H0318: 2, H0150: 2, L0794: 2, L0805:	225-248, 106-122

330	HSLDO85	801935	340	100 - 618	1745			1p36.3-p36.2	120550, 120570, 120575, 130500, 133200,	25-46, 101-122, 46-62, 126-142
					Pro-3 to Lys-12, Glu-17 to Leu-23, Ala-148 to Leu-173.	2, L0665: 2, L0743: 2, L0750: 2, L0752: 2, H0265: 1, S0342: 1, H0713: 1, S0218: 1, L0785: 1, H0484: 1, L0481: 1, S0420: 1, S0444: 1, H0637: 1, S0045: 1, S0046: 1, H0549: 1, H0486: 1, H0427: 1, H0599: 1, H0618: 1, H0194: 1, T0115: 1, H0597: 1, H0231: 1, H0083: 1, H0266: 1, H0622: 1, H0424: 1, H0213: 1, H0553: 1, H0181: 1, H0087: 1, H0551: 1, H0623: 1, H0100: 1, H0560: 1, S0150: 1, H0695: 1, L0796: 1, L0643: 1, L0662: 1, L0803: 1, L0775: 1, L0809: 1, L0789: 1, L0663: 1, L0664: 1, H0691: 1, S0126: 1, H0682: 1, S0330: 1, S0152: 1, L0749: 1, L0756: 1, L0779: 1, L0780: 1, L0753: 1, H0445: 1 and H0667: 1.	AR055: 12, AR033: 12, AR061: 11, AR089: 10, AR060: 10, AR053: 9, AR052: 8, AR104: 8, AR039: 7, AR096: 6			

153454, 167410, 236250, 256700, 600975

L0755: 6, L0769: 4, H0009: 3, H0012: 3, L0783: 3, L0749: 3, L0750: 3, L0779: 3, L0731: 3, S0376: 2, H0545: 2, S0051: 2, H0606: 2, H0100: 2, L0638: 2, L0665: 2, S0028: 2, L0751: 2, L0747: 2, L0756: 2, L0758: 2, L0603: 2, H0265: 1, H0294: 1, H0341: 1, S0212: 1, S0410: 1, S0045: 1, H0393: 1, H0549: 1, S0222: 1, H0586: 1, H0331: 1, L0623: 1, T0060: 1, H0581: 1, S0049: 1, H0309: 1, L0471: 1, H0620: 1, H0024: 1, H0266: 1, H0428: 1, H0213: 1, L0456: 1, S0366: 1, S0036: 1, H0040: 1, S0142: 1, L0763: 1, L0371: 1, L0772: 1, L0372: 1, L0646: 1, L0764: 1, L0773: 1, L0766: 1, L0774: 1, L0775: 1, L0776: 1, L0809: 1, L0519: 1, H0520: 1, H0519: 1, S0126: 1, H0660: 1, S0350: 1, S0406: 1, H0436: 1, S3012: 1, L0752: 1, L0757: 1, S0436: 1, L0592: 1, S0276:

331	HDQDF38	805499	341	791 - 1792	1746	Pro-3 to Lys-13, Thr-26 to Thr-41.	1 and H0422: 1. AR096: 3, AR089: 2, AR052: 1, AR061: 1, AR033: 1, AR053: 1, AR060: 1, AR055: 0, AR039: 0, AR104: 0 L0766: 7, L0662: 4, L0789: 4, L0748: 4, L0749: 4, L0769: 3, L0776: 3, L0438: 3, H0521: 3, H0556: 2, S0360: 2, L0717: 2, L0794: 2, L0666: 2, L0663: 2, H0547: 2, S0028: 2, L0754: 2, H0422: 2, T0049: 1, H0657: 1, H0411: 1, H0586: 1, H0013: 1, H0098: 1, H0575: 1, L0471: 1, L0163: 1, L0455: 1, S0366: 1, S0036: 1, H0038: 1, H0551: 1, L0763: 1, L0800: 1, L0387: 1, L0803: 1, L0805: 1, L0518: 1, L0809: 1, H0660: 1, H0696: 1, H0555: 1, L0612: 1, S0032: 1, L0742: 1, L0740: 1, L0747: 1, L0750: 1, L0756: 1, L0777: 1, L0757: 1, H0423: 1 and L0600: 1.	311-330
332	HULAW69	805628	342	271 -	1747	Phe-44 to Asn-55,	AR033: 14, AR096: 13,	65-84, 20-

| 678 | Arg-86 to Gly-92. | AR104: 11, AR039: 10, AR061: 9, AR052: 9, AR055: 9, AR060: 8, AR089: 8, AR053: 5 S0278: 15, S0126: 14, L0742: 13, L0754: 11, L0758: 10, L0751: 8, L0747: 8, L0748: 7, H0305: 6, S0360: 6, H0530: 6, H0545: 6, L0776: 6, L0744: 6, H0484: 5, H0638: 5, S0007: 5, S0045: 5, H0617: 5, S0144: 5, L0766: 5, L0805: 5, S0027: 5, L0750: 5, L0757: 5, H0445: 5, H0542: 5, H0657: 4, S0046: 4, H0370: 4, S0051: 4, H0424: 4, H0087: 4, H0551: 4, S0142: 4, S0344: 4, L0763: 4, L0770: 4, L0764: 4, L0662: 4, L0768: 4, L0803: 4, L0775: 4, H0539: 4, H0521: 4, L0743: 4, L0752: 4, L0603: 4, H0543: 4, S0040: 3, S0442: 3, S0358: 3, S0408: 3, H0549: 3, H0486: 3, I10544: 3, H0150: 3, H0023: 3, H0510: 3, H0646: 3, L0771: 3, L0773: 3, L0794: 3, L0774: | 38 |

3, L0655: 3, L0659: 3, S0404: 3, S3014: 3, S0028: 3, H0422: 3, H0556: 2, S6024: 2, H0295: 2, S0116: 2, H0341: 2, S0282: 2, S0029: 2, H0661: 2, H0580: 2, H0441: 2, H0069: 2, L0021: 2, H0599: 2, T0048: 2, S0049: 2, H0327: 2, H0050: 2, H0057: 2, H0083: 2, H0033: 2, H0213: 2, H0181: 2, H0606: 2, H0634: 2, S0426: 2, L0769: 2, L0639: 2, L0761: 2, L0373: 2, L0646: 2, L0378: 2, L0806: 2, L0517: 2, S0052: 2, H0670: 2, H0710: 2, H0522: 2, H0696: 2, L0745: 2, L0756: 2, L0753: 2, L0755: 2, L0731: 2, S0434: 2, S0436: 2, L0588: 2, H0653: 2, H0667: 2, S0194: 2, S0196: 2, H0423: 2, H0352: 2, H0170: 1, H0171: 1, H0265: 1, H0685: 1, H0713: 1, H0716: 1, H0294: 1, S0114: 1, L0002: 1, H0656: 1, H0381: 1, H0483: 1, H0402: 1, H0589: 1, H0125: 1, S0356: 1, H0675:

1, H0728: 1, S0132: 1,
S6022: 1, S0222: 1, H0392:
1, H0607: 1, H0592: 1,
H0586: 1, H0333: 1, H0492:
1, T0114: 1, S0280: 1,
T0082: 1, H0618: 1, H0253:
1, S0010: 1, H0581: 1,
H0251: 1, H0309: 1, H0234:
1, H0546: 1, H0178: 1,
H0567: 1, H0081: 1, H0012:
1, H0024: 1, H0594: 1,
H0266: 1, H0179: 1, H0416:
1, H0188: 1, H0290: 1,
H0292: 1, S0003: 1, H0252:
1, H0328: 1, S0368: 1,
H0604: 1, H0553: 1, H0673:
1, H0708: 1, H0316: 1,
H0598: 1, H0040: 1, H0063:
1, H0264: 1, H0413: 1,
S0038: 1, T0041: 1, H0560:
1, H0625: 1, S0464: 1,
S0438: 1, S0440: 1, H0130:
1, H0641: 1, H0529: 1,
L0369: 1, L0371: 1, L0772:
1, L0800: 1, L0642: 1,
L0644: 1, L0645: 1, L0521:
1, L0364: 1, L5564: 1,
L5568: 1, L0523: 1, L0653:
1, L0807: 1, L0527: 1,
L0636: 1, L0782: 1, L0809:

| 333 | HE9QK23 | 805751 | 343 | 321 - 737 | 1748 | Met-1 to Phe-10, Gly-13 to Leu-56, Gln-132 to Thr-139. | 1, L0529: 1, L0647: 1, L0664: 1, S0428: 1, S0216: 1, H0144: 1, H0520: 1, H0547: 1, H0689: 1, S0378: 1, S0152: 1, S0406: 1, H0187: 1, H0576: 1, S3012: 1, S0037: 1, S0206: 1, L0740: 1, L0749: 1, L0779: 1, L0759: 1, L0605: 1, L0608: 1, S0106: 1, H0216: 1, S0192: 1 and S0276: 1. AR055: 8, AR061: 7, AR033: 5, AR089: 4, AR053: 4, AR096: 4, AR052: 4, AR060: 4, AR039: 0, AR104: 0 H0616: 3, L0662: 3, L0754: 3, T0039: 2, L0758: 2, S0360: 1, S0045: 1, S6026: 1, S0222: 1, H0427: 1, H0038: 1, L0769: 1, L0805: 1, L0776: 1, L0659: 1, L0789: 1, H0144: 1, L0779: 1, L0777: 1, L0757: 1 and S0192: 1. | 72-96 |
| 334 | HNTTB36 | 806145 | 344 | 93 - 410 | 1749 | | AR033: 8, AR089: 3, AR096: 2, AR104: 2, AR053: 1, AR060: 1, AR061: 1, AR052: 0, 2 | 48-65 |

| 335 | HETJG63 | 806385 | 345 | 109 - 462 | 1750 | | AR060: 10, AR055: 7, AR033: 5, AR096: 4, AR052: 4, AR039: 3, AR089: 3, AR061: 3, AR104: 2, AR053: 2 H0046: 2 and H0616: 1. | AR039: 0, AR055: 0 S0346: 1, L0438: 1, H0520: 1, H0547: 1 and H0519: 1. | 64-87 |
| 336 | HLDRO45 | 806430 | 346 | 186 - 674 | 1751 | Asn-133 to Trp-143, Ala-145 to Phe-151. | AR096: 2, AR039: 1, AR053: 1, AR089: 1, AR055: 1, AR060: 1, AR061: 1, AR033: 1, AR104: 0, AR052: 0 L0748: 11, L0752: 6, H0266: 5, L0770: 4, L0740: 4, L0750: 4, L0596: 4, S0212: 3, L0766: 3, L0803: 3, L0756: 3, H0402: 2, H0427: 2, S0010: 2, T0003: 2, T0067: 2, S0386: 2, T0041: 2, L0769: 2, L0796: 2, L0804: 2, H0576: 2, L0747: 2, H0445: 2, L0588: 2, L0599: 2, H0543: 2, H0556: 1, S6024: 1, H0341: 1, H0306: 1, H0340: 1, H0351: 1, S6014: 1, H0431: | | 99-130, 13-38, 57-73, 36-52 |

337	HFIDZ38	806756	3-47	45 - 584	1752		

1, H0331: 1, T0039: 1, S0280: 1, L0021: 1, H0036: 1, H0390: 1, H0052: 1, H0041: 1, H0123: 1, H0057: 1, H0083: 1, S0023: 1, H0510: 1, S0003: 1, H0628: 1, H0032: 1, H0674: 1, H0598: 1, S0036: 1, H0551: 1, S0448: 1, L0764: 1, L0648: 1, L0768: 1, L0375: 1, L0525: 1, L0809: 1, L0519: 1, L0647: 1, L0788: 1, S0126: 1, H0521: 1, S0406: 1, S3012: 1, S3014: 1, S0027: 1, L0439: 1, L0779: 1, L0757: 1, L0758: 1, H0444: 1, H0595: 1, H0665: 1, S0192: 1, H0423: 1 and H0352: 1.

AR052: 3, AR033: 3, AR089: 3, AR055: 2, AR096: 2, AR060: 2, AR061: 2, AR039: 2, AR104: 2, AR053: 1 L0439: 5, L0777: 5, H0052: 4, L0803: 4, L0789: 4, L0666: 4, H0556: 3, H0090: 3, L0770: 3, L0766: 3, H0670: 3, L0747: 3, L0756: 3, L0755: 3, S0354:

64-85, 24-40, 115-131, 91-107, 7-23

244

338	HLMDO95	810257	348	113 - 484	1753	Met-1 to Asn-8.	2, S0408: 2, H0580: 2, L0021: 2, H0135: 2, L0768: 2, L0805: 2, L0809: 2, L0787: 2, L0438: 2, H0547: 2, S0406: 2, L0754: 2, L0745: 2, L0758: 2, L0759: 2, S0192: 2, L0393: 1, H0657: 1, H0656: 1, H0661: 1, H0662: 1, S0356: 1, S0358: 1, S0360: 1, H0549: 1, H0486: 1, H0581: 1, H0009: 1, H0014: 1, H0548: 1, H0268: 1, S0015: 1, S0144: 1, S0344: 1, L0769: 1, L0800: 1, L0662: 1, L0767: 1, L0794: 1, L0804: 1, L0774: 1, L0775: 1, L0375: 1, L0632: 1, L0655: 1, L0807: 1, L0659: 1, L0517: 1, L0783: 1, L0647: 1, L0663: 1, L0664: 1, L0665: 1, L0352: 1, H0690: 1, H0521: 1, S0044: 1, L0740: 1, L0749: 1, L0752: 1, L0731: 1, H0543: 1, H0423: 1 and H0506: 1. AR089: 28, AR096: 27, AR053: 19, AR052: 18, AR039: 17, AR060: 17, AR033: 14, AR104: 11,	25-46, 94-112, 56-72

339	HSLGA19	810406	349	5 - 859	1754	Leu-28 to Arg-33, Glu-44 to Thr-49, Tyr-66 to Arg-72, Pro-82 to Ile-103.	AR052: 3, AR055: 3, AR061: 2, AR096: 2, AR089: 2, AR060: 2, AR033: 1, AR053: 1, AR039: 1, AR104: 1, H0381: 1, H0255: 1, S0052: 1 and S0028: 1.	AR055: 11, AR061: 7	192-213
340	HGBGM53	810461	350	38 - 355	1755	Gln-35 to Leu-40.	AR055: 8, AR052: 8, AR053: 6, AR060: 5, AR061: 4, AR089: 4, AR096: 4, AR033: 4, AR039: 3, AR104: 2, L0439: 6, H0556: 3, H0052: 2, H0413: 2, L0748: 2, L0754: 2, L0731: 2, H0543: 2, H0341: 1, S0418: 1, S0442: 1, S0360: 1, H0734: 1, S0007: 1, S0045: 1, H0393: 1, H0411: 1, H0545: 1, H0569: 1, H0014: 1, H0271: 1, H0416: 1, H0286: 1, H0130: 1, H0649: 1, H0529: 1, L0523: 1, L0438: 1, H0547: 1, H0593: 1, H0435: 1, S0380: 1, L0741: 1, L0744: 1, L0740: 1, L0749: 1, S0434: 1,		55-71, 77-93

341	HIBCO73	810586	351	3 - 1100	1756	S0436: 1, L0366: 1, H0423: 1 and S0456: 1. AR096: 6, AR053: 6, AR052: 5, AR089: 3, AR055: 3, AR104: 2, AR060: 2, AR033: 2, AR061: 2, AR039: 1 L0748: 6, L0666: 3, L0749: 3, S0420: 2, H0486: 2, L0809: 2, L0789: 2, L0438: 2, H0521: 2, H0542: 2, H0713: 1, H0716: 1, S0212: 1, S0001: 1, H0125: 1, L0617: 1, S0356: 1, S0360: 1, S0300: 1, H0575: 1, H0253: 1, H0318: 1, H0581: 1, H0309: 1, H0081: 1, T0010: 1, H0634: 1, H0412: 1, H0059: 1, H0100: 1, L0769: 1, L0794: 1, L0803: 1, L0774: 1, L0806: 1, L0805: 1, L0659: 1, L0382: 1, L0663: 1, L0665: 1, S0126: 1, L0743: 1, L0777: 1 and L0592: 1.	151-168, 61-77
342	HDPOM13	810899	352	183 - 779	1757	Ser-34 to His-42, Pro-51 to Asp-63. AR053: 2, AR055: 2, AR033: 1, AR096: 1, AR061: 1, AR104: 1, AR060: 1, AR039: 1,	181-199

| 343 | HMEJR75 | 811268 | 353 | 171 - 671 | 1758 | Asn-20 to Arg-26, Pro-74 to Glu-79. | AR089: 0, AR052: 0 H0521: 8, H0522: 3, H0644: 2, L0769: 2, L0779: 2, H0580: 1, H0549: 1, S0002: 1 and L0791: 1. | 2p13 | 203800, 602404 | 81-97 |
| 344 | HOECE93 | 812221 | 354 | 54 - 575 | 1759 | Leu-27 to Gln-34, Ser-48 to Ile-56, Lys-73 to Ser-86. | AR033: 7, AR055: 6, AR060: 4, AR089: 4, AR052: 4, AR061: 4, AR053: 4, AR039: 2, AR096: 1, AR104: 1 H0266: 2, S0354: 1, H0619: 1, S0250: 1, L0438: 1 and L0758: 1. AR055: 7, AR033: 5, AR096: 5, AR060: 5, AR104: 4, AR061: 3, AR089: 3, AR053: 3, AR052: 2, AR039: 0 H0144: 6, L0803: 4, L0439: 4, L0749: 3, H0421: 2, H0052: 2, L0769: 2, L0774: 2, L0809: 2, L0438: 2, L0747: 2, L0731: 2, L0757: 2, L0758: 2, H0657: 1, L0021: 1, S0049: 1, H0327: 1, H0424: 1, H0674: 1, L0455: 1, L0456: 1, S0002: 1, L0763: 1, L0761: 1, L0642: 1, L0643: 1, | | | 154-174, 126-144 |

						Signal/domains			
345	HLHGA65	812445	355	22 - 444	1760	Thr-3 to Ser-16, His-30 to Asp-35, Thr-130 to Leu-135.	AR055: 12, AR052: 10, AR033: 9, AR060: 7, AR053: 7, AR061: 6, AR096: 6, AR089: 5, AR039: 3, AR104: 3 H0617: 4, H0024: 1, S0028: 1 and L0759: 1.	L0775: 1, L0793: 1, L0666: 1, H0693: 1, L0352: 1, S0126: 1, S0037: 1, L0742: 1, L0750: 1, L0759: 1 and L0361: 1.	84-111, 39-57
346	HMABF89	812465	356	67 - 552	1761	Cys-20 to Pro-29, Glu-46 to Asp-52, Asp-59 to Ser-73.	AR055: 9, AR060: 7, AR033: 6, AR061: 6, AR089: 5, AR053: 5, AR052: 5, AR096: 4, AR039: 3, AR104: 3 H0717: 2, H0589: 2, S0444: 2, S0386: 2, L3905: 2, H0521: 2, S0356: 1, H0549: 1, H0575: 1, S0010: 1, T0010: 1, H0031: 1, H0553: 1, H0135: 1, H0090: 1, H0551: 1, S0144: 1, S0142: 1, L0521: 1, L0662: 1, L0803: 1, L0775: 1, L0663: 1, S0428: 1, H0144: 1, H0519: 1, H0522: 1, S0028: 1, L0592: 1 and		125-156, 27-46, 100-123

347	IILKDC74	812760	357	195 - 932	1762	Gly-25 to Gly-30, Pro-105 to Val-112, Glu-137 to Cys-146, Pro-215 to Cys-223, Pro-226 to Arg-240.	H0136: 1. AR060: 1, AR055: 1, AR096: 0, AR061: 0, AR039: 0, AR104: 0, AR033: 0, AR089: 0, AR052: 0, AR053: 0 H0542: 2, H0584: 1, H0611: 1, H0592: 1, H0427: 1, L0644: 1, L0648: 1, L0806: 1, H0522: 1, H0543: 1 and H0422: 1.	1p36.3	120550, 120570, 120575, 153454, 236250, 256700	171-200, 4-24
348	HDTAV81	813300	358	311 - 766	1763	Met-1 to Cys-8.	AR053: 11, AR096: 9, AR052: 9, AR039: 6, AR089: 4, AR033: 4, AR055: 3, AR060: 3, AR104: 3, AR061: 2 H0656: 2, H0457: 2, H0634: 2, H0521: 2, H0436: 2, H0341: 1, S0418: 1, H0486: 1, H0581: 1, H0271: 1, L0362: 1 and H0423: 1.			105-122
349	HETIZ34	815417	359	74 - 1915	1764	Pro-46 to Tyr-51.	AR033: 10, AR104: 9, AR055: 8, AR052: 8, AR060: 8, AR089: 6, AR096: 6, AR053: 5, AR061: 3, AR039: 3 S0222: 8, L0662: 8, L0005: 7, L0665: 7, L0659: 7, L0666: 6, L0547: 6, H0547: 6,			477-500, 385-401, 448-464, 13-29, 514-530, 581-597, 166-182

L0740: 6, S6028: 4, L0483: 4, L0438: 4, L0754: 4, L0756: 4, L0779: 4, S0194: 4, S0049: 3, S0388: 3, L0646: 3, L0521: 3, L0663: 3, L0664: 3, H0435: 3, H0696: 3, L0439: 3, L0777: 3, H0624: 2, H0171: 2, S0356: 2, S0442: 2, S0354: 2, S0360: 2, S0408: 2, H0046: 2, H0563: 2, L0471: 2, S0051: 2, H0266: 2, H0040: 2, H0623: 2, S0440: 2, L0598: 2, L0520: 2, L0641: 2, L0771: 2, L0768: 2, L0774: 2, L0805: 2, L0776: 2, L0518: 2, L0565: 2, H0519: 2, H0670: 2, H0660: 2, H0648: 2, H0672: 2, S0028: 2, L0751: 2, L0731: 2, L0758: 2, S0031: 2, L0596: 2, L0595: 2, S0026: 2, S0196: 2, H0170: 1, H0686: 1, H0685: 1, H0717: 1, H0381: 1, S0212: 1, H0662: 1, S0418: 1, S0376: 1, S0045: 1, S0046: 1, H0411: 1, H0369: 1, H0550: 1, H0438: 1, H0602: 1, T0040: 1, H0013: 1,

350	HWLIX39	815669	360	84 - 1052	1765		
					Ser-4 to Glu-11, Tyr-14 to Lys-29, Arg-101 to Arg-106, Gly-239 to Tyr-246.	H0427: 1, S0280: 1, H0590: 1, H0390: 1, S0474: 1, H0052: 1, T0110: 1, H0545: 1, H0178: 1, H0562: 1, H0123: 1, H0373: 1, H0201: 1, H0355: 1, S0003: 1, H0615: 1, H0428: 1, T0006: 1, H0031: 1, H0553: 1, H0032: 1, S0036: 1, H0163: 1, H0551: 1, L0564: 1, L0370: 1, S0370: 1, S0450: 1, L0769: 1, L0637: 1, L5565: 1, L0372: 1, L0773: 1, L0650: 1, L0806: 1, L0527: 1, L0526: 1, L0783: 1, L0809: 1, S0374: 1, H0520: 1, H0682: 1, H0659: 1, S0328: 1, S0330: 1, H0539: 1, S0380: 1, L0602: 1, S0152: 1, H0555: 1, L0753: 1, L0755: 1, L0759: 1, S0260: 1, S0434: 1, S0436: 1, L0366: 1, H0667: 1 and S0242: 1. AR039: 23, AR104: 15, AR033: 15, AR096: 14, AR052: 12, AR089: 12, AR053: 11, AR055: 9, AR060: 8, AR061: 7 S0406: 2, S0358: 1, S0278:	40-65, 197-214, 107-123, 160-176, 63-79

351	
HDTJT12	
823632	
361	
37 - 354	
1766	
Pro-14 to Gly-23, Arg-93 to Pro-100.	1, H0586: 1, H0253: 1, H0039: 1, H0038: 1 and S0434: 1. AR089: 3, AR060: 5, AR033: 3, AR096: 3, AR039: 1, AR052: 1, AR061: 1, AR055: 0, AR104: 0, AR053: 0 H0618: 5, H0253: 5, L0758: 3, H0370: 2, H0107: 2, H0674: 2, H0135: 2, L0803: 2, H0521: 2, L0747: 2, L0779: 2, H0583: 1, S0212: 1, S0442: 1, S0358: 1, S0360: 1, S0408: 1, H0580: 1, S0046: 1, H0619: 1, H0393: 1, H0486: 1, H0635: 1, H0599: 1, H0590: 1, H0083: 1, H0510: 1, H0038: 1, H0488: 1, H0623: 1, H0494: 1, S0382: 1, L0770: 1, L0769: 1, L0648: 1, L0549: 1, L0791: 1, S0052: 1, H0519: 1, H0670: 1, H0666: 1, H0651: 1, S0404: 1, L0748: 1, L0777: 1, L0755: 1, S0434: 1, S0436: 1, L0588: 1, L0593: 1, L0601: 1, H0216: 1 and H0543: 1.
14q32.1	
107280, 107280, 107400, 107400, 122500, 186960, 245200, 601841	
68-93, 39-59	

352	HSVCA10	824800	362	117 - 455	1767	Glu-14 to Met-26, Leu-77 to Asn-88, Lys-96 to Gly-104.	AR055: 7, AR052: 4, AR060: 4, AR061: 4, AR039: 4, AR053: 4, AR033: 3, AR096: 3, AR089: 2, AR104: 1 H0309: 1	44-64
353	HDFQA53	825910	363	91 - 459	1768	Ala-4 to Glu-13, Gln-80 to Trp-90.	AR039: 54, AR096: 22, AR033: 21, AR053: 21, AR055: 17, AR104: 15, AR089: 13, AR060: 12, AR052: 11, AR061: 9 S0474: 5, L0770: 3, L0790: 3, H0421: 2, S0422: 2, L0769: 2, L0759: 2, H0327: 1, H0566: 1, H0051: 1, S0036: 1, L3905: 1, L0803: 1, L0809: 1 and S0260: 1.	39-64, 57-79, 89-114
354	HE9PC92	827237	364	309 - 776	1769	Met-1 to Glu-6, Ser-16 to Phe-40, Glu-75 to Leu-83, Cys-86 to Lys-99, Ser-116 to Asp-124, Leu-127 to Glu-136.	AR089: 5, AR060: 5, AR061: 5, AR096: 3, AR055: 3, AR033: 2, AR104: 2, AR039: 2, AR053: 1, AR052: 1 S0046: 1, H0592: 1, H0486: 1, H0013: 1, H0581: 1, L0809: 1 and H0144: 1.	39-73
355	HMSOU92	827837	365	261 - 653	1770	Ser-42 to Ser-47, Arg-91 to Lys-99.	AR039: 14, AR096: 13, AR089: 12, AR060: 10, AR104: 10, AR033: 8,	53-70, 7-23

| 356 | HE8OX52 | 828103 | 366 | 122 - 457 | 1771 | Cys-29 to Asp-35, Pro-63 to Pro-70. | AR061: 6, AR033: 5, AR055: 5, AR060: 4, AR104: 3, AR052: 3, AR053: 3, AR089: 2, AR096: 2, AR039: 0 L0415: 1, H0619: 1, H0013: 1, H0052: 1, T0010: 1, H0591: 1, H0521: 1, S3014: 1, L0439: 1, L0596: 1 and S0242: 1. | AR052: 7, AR053: 6, AR055: 5, AR061: 4 S0426: 2 and L0596: 2. | 1p36.33-1p36.11 | 120550, 120570, 120575, 130500, 133200, 600975 | 93-109 |
| 357 | HDAAS81 | 828170 | 367 | 115 - 489 | 1772 | Arg-16 to Glu-27, Gln-37 to Phe-44, Cys-52 to Glu-58, Leu-85 to Lys-91. | AR096: 2, AR061: 1, AR033: 1, AR060: 1, AR053: 0, AR104: 0, AR039: 0, AR089: 0, AR055: 0 L0754: 15, L0439: 14, L0666: 7, L0777: 7, S0003: 6, L0163: 4, H0553: 4, H0040: 4, L0803: 4, L0779: 4, L0755: 4, H0624: 3, S0358: 3, L0471: 3, S0426: 3, L0794: 3, L0659: 3, H0547: 3, L0602: 3, H0696: 3, L0748: 3, L0731: 3, L0757: 3, H0295: 2, S0212: 2, H0661: 2, S0376: 2, | | | | 97-124 |

358	HUSIK57	828267	368	142 - 471	1773	Gly-71 to Leu-84.		

L0805: 1, L0653: 1, L0657: 1, L0789: 1, L0665: 1, H0144: 1, L0565: 1, H0519: 1, H0689: 1, H0682: 1, H0672: 1, S0330: 1, S0152: 1, H0521: 1, H0704: 1, S3014: 1, L0750: 1, L0758: 1, S0260: 1, H0595: 1, S0436: 1, L0591: 1, S0011: 1, H0667: 1, S0192: 1 and H0506: 1.

AR052: 8, AR053: 7, AR033: 7, AR055: 5, AR089: 4, AR060: 4, AR096: 3, AR061: 3, AR039: 3, AR104: 2 L0779: 15, L0775: 9, L0758: 9, L0770: 7, L0769: 7, 6, L0740: 5, L0754: 5, L0757: 5, S0408: 4, L0766: 4, 4, L0789: 4, L0777: 4, L0759: 4, L0601: 4, H0224: 4, 3, L0771: 3, L0776: 3, L0747: 3, L0752: 3, L0755: 3, 3, H0549: 2, H0196: 2, H0083: 2, S0150: 2, L0763: 2, 2, L0764: 2, L0787: 2, H0660: 2, L0750: 2, L0780: 2, 2, H0170: 1, H0685: 1, S0040: 1, H0657: 1, H0638: 1.

40-71, 83-99, 32-48

359	HPRBB67	828597	369	100 - 903	1774			
						Asp-50 to Ile-64, Gln-66 to Asp-71, Thr-177 to Ser-183, Arg-246 to Thr-263.	1, S0418: 1, S0356: 1, S0358: 1, H0329: 1, S0278: 1, H0550: 1, S0222: 1, H0586: 1, L0622: 1, L0021: 1, H0390: 1, L0471: 1, S0050: 1, H0014: 1, H0594: 1, H0266: 1, H0188: 1, H0615: 1, H0038: 1, H0272: 1, H0412: 1, H0560: 1, S0144: 1, L0772: 1, L0646: 1, L0773: 1, L0768: 1, L0774: 1, L0653: 1, L0655: 1, L0515: 1, L0526: 1, L0783: 1, L0383: 1, H0520: 1, H0648: 1, S0152: 1, S0190: 1, L0742: 1, L0746: 1, L0756: 1, H0542: 1 and H0352: 1. AR055: 14, AR060: 9, AR052: 7, AR104: 5, AR096: 5, AR033: 5, AR089: 5, AR053: 4, AR061: 3, AR039: 2 L0794: 7, L0804: 5, L0747: 5, L0800: 4, L0803: 4, S0003: 3, L0752: 3, L0758: 3, H0638: 2, H0169: 2, L0770: 2, L0769: 2, L0774: 2, H0436: 2, L0748: 2, L0439: 2, L0750: 2,	193-209, 152-168, 117-133

360	HPIBM51	828682	370	177 - 617	1775	Glu-42 to Ser-53.	L0777: 2, H0265: 1, H0305: 1, S0356: 1, H0013: 1, H0318: 1, H0052: 1, H0309: 1, H0597: 1, L0471: 1, H0032: 1, L0455: 1, T0042: 1, S0142: 1, L0638: 1, L0768: 1, L0775: 1, L0651: 1, L0809: 1, L0788: 1, S0053: 1, S0216: 1, H0144: 1, S0328: 1, H0521: 1, H0523: 1, S0146: 1, H0478: 1, L0780: 1 and L0608: 1. AR055: 10, AR061: 9, AR060: 6, AR033: 5, AR052: 5, AR089: 4, AR053: 3, AR039: 2, AR096: 1, AR104: 1 H0583: 1, H0415: 1 and S0150: 1.	91-108
361	HLYFY81	828777	371	143 - 919	1776		AR033: 15, AR039: 13, AR055: 13, AR053: 12, AR096: 11, AR089: 11, AR052: 11, AR061: 10, AR104: 9, AR060: 8 L0770: 4, L0748: 3, L0750: 3, H0622: 2, H0169: 2, L0769: 2, L0766: 2, L0775: 2, L0806: 2, L0776: 2, H0436: 2, L0741: 2,	227-258

362	HDPLO68	828826	372	398 - 730	1777	Glu-22 to Lys-27, Glu-39 to Asn-44, Met-55 to Ser-60, Leu-71 to Gln-80.	L0740: 2, H0445: 2, H0556: 1, S0114: 1, H0657: 1, S0001: 1, H0255: 1, H0638: 1, S0444: 1, S0046: 1, H0231: 1, H0530: 1, H0546: 1, H0545: 1, H0123: 1, H0012: 1, H0051: 1, H0594: 1, H0039: 1, H0424: 1, H0617: 1, H0560: 1, H0366: 1, H0652: 1, L0369: 1, L0772: 1, L0773: 1, L0662: 1, L0387: 1, L0649: 1, L0783: 1, L0665: 1, S0152: 1, S3012: 1, L0777: 1, L0757: 1, L0758: 1 and H0506: 1.			83-109
363	HHEUU25	828922	373	174 - 1403	1778	Met-1 to Ser-9.	AR104: 2, AR039: 1, AR096: 1, AR033: 1, AR055: 1, AR060: 1, AR061: 0, AR089: 0, AR053: 0, AR052: 0, S0002: 2, H0431: 1, S0003: 1, H0644: 1, H0521: 1, S0044: 1, S0146: 1 and S0028: 1.	AR053: 81, AR052: 72, AR033: 37, AR089: 34, AR096: 20, AR055: 14, AR060: 12, AR039: 11,	1p32-p34	120950, 120960, 130500, 133200,	305-321

| 364 | HNTBH70 | 828926 | 374 | 49 - 522 | 1779 | Gly-101 to Tyr-110. | AR104: 9, AR061: 9 H0046: 6, L0794: 4, H0547: 4, L0439: 3, L0779: 3, H0543: 3, L0454: 2, L0768: 2, L0663: 2, L0665: 2, L0749: 2, L0777: 2, H0716: 1, H0657: 1, H0662: 1, S0278: 1, T0039: 1, H0013: 1, H0052: 1, L0471: 1, H0591: 1, H0264: 1, S0440: 1, S0150: 1, S0002: 1, L0369: 1, L0640: 1, L0770: 1, L0662: 1, L0766: 1, L0803: 1, L0804: 1, L0378: 1, L0806: 1, L0666: 1, H0519: 1, H0539: 1, H0521: 1, S0176: 1, H0555: 1, L0747: 1, L0755: 1, L0731: 1, L0758: 1, L0362: 1 and S0424: 1. | AR096: 2, AR089: 2, AR033: 1, AR039: 1, AR061: 1, AR052: 1, AR060: 1, AR055: 0, AR053: 0, AR104: 0 S0414: 8, L0754: 7, L0766: 6, L0758: 5, L0794: 3, L0592: 3, S0007: 2, L0471: 2, H0032: 2, H0038: 2, L0659: 2, H0710: 2, | 138140, 168360, 171760, 171760, 176100, 176100, 178300, 187040, 230000, 255800, 600101, 600650, 600650, 600722, 600722 | 81-99 |

365	HMIAN37	828988	375	55 - 1137	1780	Sequence counts	Asp-42 to Lys-57.	AR counts	15-31, 172-190
365	HMIAN37	828988	375	55 - 1137	1780	L0745: 2, L0756: 2, H0624: 1, H0171: 1, S0278: 1, H0389: 1, H0431: 1, H0632: 1, H0156: 1, L0157: 1, H0510: 1, H0416: 1, S0336: 1, S0003: 1, H0428: 1, H0553: 1, H0169: 1, H0212: 1, H0040: 1, H0634: 1, L0638: 1, L0662: 1, L0803: 1, L0804: 1, L0650: 1, L0774: 1, L0776: 1, L0655: 1, L0809: 1, L0791: 1, S0052: 1, H0519: 1, L0355: 1, H0696: 1, H0436: 1, H0478: 1, L0779: 1, L0755: 1, S0436: 1 and H0543: 1.	Asp-42 to Lys-57.	AR061: 3, AR033: 2, AR089: 2, AR060: 2, AR096: 1, AR052: 1, AR055: 1, AR104: 1, AR053: 1, AR039: 0, S0414: 26, L0777: 8, L0758: 8, L0439: 5, L0779: 5, L0752: 4, L0471: 3, H0266: 3, H0032: 3, S0422: 3, L0766: 3, L0803: 3, L0809: 3, S0380: 3, L0740: 3, L0731: 3, S0192: 3, H0170: 2, H0657: 2, S0358: 2, S6016: 2, H0574: 2,	15-31, 172-190

H0052: 2, H0009: 2, H0051: 2, S6028: 2, H0090: 2, H0591: 2, S0440: 2, L0653: 2, L0666: 2, L0663: 2, H0689: 2, H0658: 2, L0745: 2, L0747: 2, L0750: 2, L0753: 2, H0423: 2, S0412: 2, H0171: 1, H0656: 1, S0360: 1, S0408: 1, H0728: 1, L0717: 1, H0351: 1, H0411: 1, S0222: 1, H0392: 1, H0455: 1, H0587: 1, T0114: 1, S0474: 1, H0309: 1, H0263: 1, H0596: 1, H0046: 1, H0083: 1, S0022: 1, H0615: 1, H0428: 1, H0553: 1, H0628: 1, H0212: 1, H0068: 1, S0036: 1, H0268: 1, H0623: 1, T0069: 1, H0494: 1, S0438: 1, H0633: 1, H0529: 1, L0637: 1, L0764: 1, L0771: 1, L0794: 1, L0388: 1, L0804: 1, L0774: 1, L0805: 1, L0607: 1, L0659: 1, L0636: 1, L0647: 1, L0790: 1, L0664: 1, L0665: 1, S0374: 1, L0438: 1, H0519: 1, S0328: 1, S0378: 1, H0518: 1, S0152: 1, H0521: 1,

| 366 | HPFDI25 | 829071 | 376 | 83 - 862 | 1781 | H0696: 1, S3012: 1, L0742: 1, L0756: 1, L0759: 1, H0445: 1, S0434: 1, L0581: 1, S0011: 1, H0653: 1, H0667: 1, S0242: 1, H0422: 1 and S0042: 1. | AR033: 72, AR055: 60, AR089: 41, AR052: 40, AR053: 38, AR060: 37, AR061: 25, AR096: 11, AR104: 6, AR039: 4 L0777: 15, L0766: 7, L0776: 6, L0751: 6, L0770: 4, L0775: 4, L0806: 4, L0805: 4, L0780: 4, S0214: 3, L0769: 3, L0774: 3, L0755: 3, H0599: 2, S0003: 2, L0768: 2, L0803: 2, L0807: 2, L0788: 2, L0743: 2, L0740: 2, L0754: 2, L0756: 2, L0779: 2, L0752: 2, L0758: 2, L0591: 2, L0603: 2, H0159: 1, H0661: 1, S0045: 1, S0222: 1, L0586: 1, H0575: 1, S0010: 1, S0474: 1, H0309: 1, S0050: 1, S0051: 1, S0022: 1, H0553: 1, H0169: 1, H0591: 1, H0038: 1, H0634: 1, S0142: 1, S0422: 1, | 141-158, 1-17, 102-118 |

| 367 | HBCN93 | 829308 | 377 | 282-938 | 1782 | Met-1 to Asn-12, Glu-17 to Gln-26, Thr-43 to Ser-70, Ala-72 to Lys-88, Asp-131 to Val-136, Val-183 to Asp-190, Pro-192 to Ala-203. | AR053: 2, AR052: 2, AR096: 2, AR089: 2, AR033: 1, AR104: 1, AR055: 1, AR039: 1, AR060: 1, AR061: 1 L0740: 12, L0439: 10, L0766: 7, L0769: 4, L0794: 4, L0756: 4, H0549: 3, L0768: 3, L0803: 3, L0665: 3, S0206: 3, L0750: 3, H0423: 3, S0007: 2, S0010: 2, S0346: 2, H0052: 2, H0327: 2, H0024: 2, H0051: 2, L0763: 2, L0770: 2, H0144: 2, L0758: 2, H0556: 1, L0760: 1, S6026: 1, S0300: 1, H0550: 1, S0222: 1, H0392: 1, H0331: 1, H0013: 1, H0318: 1, S0049: 1, H0194: 1, H0103: 1, H0050: 1, L0471: 1, H0620: 1, H0373: 1, S0388: 1, T0010: 1, H0399: 1, H0553: 1, H0644: 1, H0032: 1, | 6q21-q23.2 | 107470, 107470, 107470, 120110, 121014, 164200, 164200, 601316, 601666, 601757, 602772 | L0369: 1, L0771: 1, L0521: 1, L0655: 1, L0783: 1, L0787: 1, S0374: 1, H0659: 1, S0152: 1, S3012: 1, L0439: 1, L0747: 1, L0750: 1, S0026: 1 and H0543: 1. | 88-106 |

368	HCUDM68	829463	378	14 - 457	1783	Asp-9 to Tyr-15, Pro-27 to Lys-48, Ser-61 to Asn-67, Asp-104 to Asn-113.	AR089: 23, AR096: 19, AR052: 18, AR039: 15, AR053: 15, AR033: 14, AR060: 9, AR055: 8, AR061: 7, AR104: 6 L0748: 10, L0766: 9, L0777: 9, L0776: 7, L0749: 7, L0756: 7, H0486: 6, L0754: 6, L0662: 5, L0747: 5, H0009: 4, S0036: 4, S0210: 4, L0771: 4, L0794: 4, L0439: 4, L0779: 4, L0752: 4, S0116: 3, S0045: 3, H0550: 3, H0599: 3, H0581: 3, H0039: 3, L0770: 3, L0805: 3, L0740: 3,	H0124: 1, H0068: 1, S0036: 1, H0135: 1, H0038: 1, H0616: 1, H0551: 1, T0067: 1, H0100: 1, H0560: 1, H0561: 1, L0662: 1, L0649: 1, L0774: 1, L0517: 1, L0809: 1, L0647: 1, L0789: 1, L0792: 1, L0352: 1, S0126: 1, H0539: 1, S0380: 1, H0518: 1, S0004: 1, S0044: 1, S3014: 1, L0748: 1, L0747: 1, L0686: 1, L0592: 1, S0196: 1 and H0352: 1.	1p32-p31	120950, 120960, 138140, 178300, 180069, 180069, 180069, 187040, 201450, 248610, 600101, 600309, 600650, 600650, 600722, 600722,	69-86

601676, 602522

L0755: 3, L0731: 3, L0758: 3, L0599: 3, S0412: 3, S0410: 2, H0645: 2, H0369: 2, S0222: 2, H0497: 2, H0013: 2, H0251: 2, H0083: 2, H0615: 2, S0422: 2, L0631: 2, L0764: 2, L0803: 2, L0774: 2, L0775: 2, L0527: 2, L0659: 2, H0519: 2, H0711: 2, H0670: 2, H0539: 2, S0350: 2, H0436: 2, L0745: 2, L0750: 2, L0362: 2, L0600: 2, H0624: 1, H0171: 1, H0265: 1, H0556: 1, T0002: 1, H0717: 1, S6024: 1, T0049: 1, H0583: 1, H0650: 1, S0001: 1, H0662: 1, H0402: 1, H0638: 1, S0356: 1, S0376: 1, S0360: 1, H0329: 1, H0729: 1, H0728: 1, L0717: 1, H0351: 1, H0441: 1, H0455: 1, H0592: 1, H0586: 1, H0492: 1, H0485: 1, T0040: 1, H0244: 1, H0427: 1, L0022: 1, H0004: 1, S0010: 1, S0346: 1, T0048: 1, H0052: 1, H0596: 1, H0597: 1, H0046: 1, H0050: 1, L0471: 1, H0024: 1,

369	HCFCU33	829601	379	830 - 279	1784			5q31.1	131400, 147061, 147575, 147575, 147575,	108-137, 137-168
						H0051: 1, S6028: 1, S0003: 1, H0428: 1, T0023: 1, L0483: 1, H0169: 1, L0456: 1, H0163: 1, H0090: 1, H0038: 1, H0040: 1, T0067: 1, H0380: 1, H0433: 1, H0268: 1, T0041: 1, H0494: 1, H0561: 1, H0646: 1, S0208: 1, S0002: 1, S0426: 1, H0743: 1, H0529: 1, L0520: 1, L0763: 1, L0667: 1, L0627: 1, L0800: 1, L0378: 1, L0806: 1, L0658: 1, L0512: 1, L0542: 1, L0783: 1, L0809: 1, L0519: 1, L0788: 1, L0789: 1, L0791: 1, L0666: 1, L0663: 1, H0144: 1, H0682: 1, H0659: 1, H0672: 1, S0330: 1, H0521: 1, H0478: 1, H0626: 1, L0780: 1, L0759: 1, H0444: 1, S0434: 1, L0596: 1, L0581: 1, L0601: 1, H0668: 1, H0667: 1, S0194: 1, H0423: 1 and : 1.	AR039: 4, AR053: 3, AR089: 3, AR033: 3, AR055: 3, AR096: 2, AR060: 2, AR061: 2, AR104: 1, AR052: 0			
						Asp-37 to Tyr-46, Asn-48 to Gly-55, Ala-58 to Gly-65, Thr-68 to Trp-81, Ser-89 to Thr-101,				

370	HTGCM10	829736	380	2389 - 1391	1785			
					Arg-5 to Ser-10, Ser-29 to Ser-39, Tyr-99 to Asp-104, Asp-115 to Ile-129, Gln-131 to Asp-136, Ser-208 to Ser-215, Lys-236 to Glu-247, Ser-307 to Ser-316, His-325 to Asn-331.	AR055: 8, AR052: 7, AR096: 5, AR089: 5, AR033: 5, AR060: 5, AR053: 5, AR061: 4, AR104: 3, AR039: 2 L0748: 10, L0740: 8, L0754: 7, L0770: 5, H0539: 5, L0439: 5, L0362: 5, I10641: 4, L0777: 4, L0599: 4, L0603: 4, S0444: 3, H0486: 3, L0804: 3, H0547: 3, L0749: 3, L0750: 3, H0663: 2, S0360: 2, S0045:	
					Leu-105 to Arg-110.	H0545: 2, H0135: 2, S0342: 1, H0484: 1, S0358: 1, S0278: 1, H0550: 1, H0370: 1, H0574: 1, H0492: 1, H0599: 1, H0575: 1, H0546: 1, H0123: 1, H0050: 1, H0012: 1, H0620: 1, S0051: 1, H0100: 1, H0494: 1, S0352: 1, H0132: 1, H0130: 1, L0764: 1, L0766: 1, H0144: 1, H0519: 1, S0126: 1, H0670: 1, H0660: 1, H0696: 1, S3014: 1, L0748: 1, L0745: 1, L0756: 1, L0731: 1, H0445: 1, L0595: 1, S0196: 1 and H0422: 1.	153455, 159000, 181460, 600807, 601596, 602089	258-274, 217-233, 182-198

2, H0438: 2, H0013: 2,
H0599: 2, S0003: 2, L0483:
2, H0031: 2, H0591: 2,
S0144: 2, L0794: 2, L0803:
2, L0654: 2, L0657: 2,
L0809: 2, L0438: 2, H0521:
2, H0522: 2, S3014: 2,
L0751: 2, L0731: 2, L0596:
2, L0593: 2, S0242: 2,
H0624: 1, S0040: 1, S0134:
1, H0583: 1, H0657: 1,
H0483: 1, H0661: 1, H0662:
1, H0402: 1, H0638: 1,
S0420: 1, S0442: 1, H0580:
1, H0329: 1, H0734: 1,
S0476: 1, H0549: 1, S0222:
1, H0441: 1, H0431: 1,
H0587: 1, S0280: 1, H0251:
1, H0569: 1, H0012: 1,
H0057: 1, H0375: 1, S0250:
1, H0428: 1, L0142: 1,
H0169: 1, S0036: 1, H0038:
1, H0616: 1, H0412: 1,
H0494: 1, H0625: 1, S0438:
1, S0440: 1, H0509: 1,
S0150: 1, S0344: 1, S0422:
1, S0002: 1, L0763: 1,
L0769: 1, L0761: 1, L0646:
1, L0773: 1, L0766: 1,
L0774: 1, L0775: 1, L0805:

| 371 | HFIIS05 | 830029 | 381 | 66 - 575 | 1786 | Arg-9 to Thr-17, Lys-74 to Arg-89, Arg-135 to Glu-143, Ser-164 to Thr-170. | AR052: 8, AR096: 7, AR033: 7, AR104: 5, AR053: 5, AR089: 4, AR060: 4, AR055: 4, AR061: 3, AR039: 3 H0556: 11, H0046: 7, H0617: 6, L0750: 6, L0769: 5, L0766: 5, L0759: 5, S0434: 5, H0265: 3, H0584: 3, S0358: 3, S0360: 3, H0266: 3, L0770: 3, L0771: 3, L0439: 3, L0749: 3, H0543: 3, H0657: 2, H0484: 2, S0420: 2, S0007: 2, H0497: 2, H0623: 2, H0494: 2, S0440: 2, L0763: 2, L0764: 2, L0666: 2, H0144: 2, S0328: 2, S0330: 2, S0406: 2, L0751: 2, L0754: | 1, L0653: 1, L0776: 1, L0636: 1, L0792: 1, L0666: 1, H0520: 1, H0519: 1, H0593: 1, S0126: 1, I0659: 1, H0658: 1, H0710: 1, H0436: 1, S0027: 1, L0744: 1, L0747: 1, L0780: 1, L0752: 1, L0755: 1, L0758: 1, L0759: 1, S0436: 1, L0591: 1, L0592: 1 and S0276: 1. | 102-118, 54-70 |

2, L0747: 2, L0592: 2,
S0026: 2, T0002: 1, H0686:
1, H0713: 1, H0294: 1,
T0049: 1, H0341: 1, H0664:
1, H0228: 1, H0402: 1,
H0638: 1, S0418: 1, S0408:
1, S0046: 1, L0717: 1,
H0370: 1, H0392: 1, H0333:
1, H0492: 1, H0486: 1,
T0060: 1, H0069: 1, H0427:
1, H0575: 1, H0036: 1,
T0001: 1, H0196: 1, H0251:
1, T0115: 1, H0545: 1,
L0157: 1, H0012: 1, H0350:
1, H0328: 1, T0006: 1,
H0604: 1, H0628: 1, H0181:
1, L0055: 1, H0135: 1,
H0616: 1, H0413: 1, T0042:
1, H0560: 1, H0359: 1,
H0561: 1, H0529: 1, L0762:
1, L0761: 1, L0372: 1,
L0646: 1, L0641: 1, L0648:
1, L0768: 1, L0774: 1,
L0775: 1, L0806: 1, L0653:
1, L0809: 1, H0547: 1,
H0539: 1, H0521: 1, H0555:
1, S0037: 1, S0206: 1,
L0745: 1, L0753: 1, L0755:
1, H0445: 1, S0194: 1 and
S0276: 1.

372	H2CBII25	830128	150 - 770	1787		AR052: 48, AR033: 27, AR104: 25, AR061: 24, AR060: 23, AR096: 18, AR053: 18, AR089: 15, AR055: 13, AR039: 4 T0110: 1, H0032: 1, H0212: 1, H0090: 1 and H0494: 1.	96-114, 5-21
373	HWLFQ55	830262	5 - 631	1788	Lys-4 to Glu-11.	AR089: 20, AR096: 9, AR052: 8, AR053: 6, AR060: 5, AR033: 4, AR039: 3, AR055: 3, AR104: 3, AR061: 2 S0354: 3, H0050: 1, L0483: 1 and H0670: 1.	28-59, 86-102
374	HWLBK80	830339	231 - 548	1789		AR096: 9, AR104: 9, AR033: 7, AR089: 6, AR039: 5, AR060: 5, AR053: 4, AR052: 3, AR061: 2, AR055: 2 S0374: 2	76-92, 53-69
375	HWHQR45	830348	75 - 911	1790	Ile-72 to Asn-77, Asp-98 to Gly-104.	AR033: 5, AR053: 5, AR052: 4, AR055: 4, AR089: 3, AR061: 2, AR060: 2, AR096: 1, AR104: 0, AR039: 0 H0663: 1, H0586: 1, H0587: 1, H0039: 1, S0440: 1 and L0771: 1.	10-30, 41-57, 171-187, 194-210

| 376 | HTTDO45 | 830542 | 386 | 447-1637 | 1791 | Leu-184 to Trp-190, Val-208 to Met-217, Glu-221 to Thr-228, Val-238 to Gly-243, Asp-266 to Asn-272, Arg-370 to Lys-375. | AR060: 13, AR061: 11, AR089: 6, AR033: 5, AR104: 4, AR053: 4, AR096: 3, AR039: 3, AR055: 2, AR052: 2 L0803: 30, S0358: 13, S0360: 6, S0438: 6, L0794: 6, L0774: 6, L0805: 6, H0717: 5, S0408: 5, S0440: 5, L0769: 5, L0775: 5, L0777: 5, S0444: 4, H0510: 4, L0439: 4, L0747: 4, L0731: 4, L0757: 4, L0601: 4, S0026: 4, H0556: 3, H0509: 3, L0662: 3, L0776: 3, L0807: 3, S0406: 3, L0581: 3, L0608: 3, H0624: 2, T0002: 2, S0218: 2, S0354: 2, H0722: 2, S0007: 2, H0333: 2, H0574: 2, H0599: 2, L0471: 2, H0373: 2, H0188: 2, H0644: 2, H0040: 2, L0761: 2, L0363: 2, L0651: 2, L0659: 2, L0783: 2, L0789: 2, H0521: 2, S0028: 2, L0744: 2, L0748: 2, L0745: 2, L0749: 2, S0436: 2, L0588: 2, L0362: 2, T0049: 1, H0657: 1, H0341: 1, H0638: 1, | 18 | | | 376-392, 278-294, 246-262 |

377	HRGDD63	830829	387	38 - 370	1792		36-64, 76-92
						S0442: 1, H0637: 1, H0441: 1, H0431: 1, H0586: 1, L0623: 1, H0013: 1, S0280: 1, H0575: 1, T0082: 1, H0581: 1, S0049: 1, L0033: 1, H0596: 1, L0040: 1, H0231: 1, S0362: 1, H0355: 1, H0622: 1, T0023: 1, S0366: 1, H0135: 1, H0163: 1, H0591: 1, H0551: 1, H0059: 1, L0564: 1, S0142: 1, S0344: 1, L0764: 1, L0773: 1, L0768: 1, L0766: 1, L0389: 1, L0804: 1, L0376: 1, L0527: 1, L0809: 1, L0665: 1, H0144: 1, H0723: 1, H0547: 1, H0519: 1, S0126: 1, H0672: 1, S0330: 1, H0522: 1, H0134: 1, S0037: 1, L0754: 1, L0752: 1, L0755: 1, S0031: 1, H0707: 1, H0667: 1, H0542: 1, H0543: 1 and H0008: 1.	AR053: 6, AR055: 6, AR096: 6, AR039: 5, AR052: 4, AR060: 4, AR033: 4, AR089: 4, AR061: 3, AR104: 2 H0271: 21, H0179: 11,
						Phe-2 to His-9, Cys-16 to His-23, Val-31 to Arg-37, Pro-104 to Tyr-111.	

H0457: 8, H0584: 6, L0779: 6, H0521: 5, L0766: 4, L0776: 4, L0748: 4, L0777: 4, H0265: 3, H0585: 3, H0529: 3, L0805: 3, L0749: 3, H0556: 2, H0550: 2, H0087: 2, L0662: 2, S0052: 2, L0438: 2, S0126: 2, L0747: 2, L0752: 2, H0543: 2, H0167: 1, S0040: 1, H0294: 1, S0116: 1, H0341: 1, H0638: 1, S0360: 1, H0586: 1, H0497: 1, L0021: 1, H0231: 1, H0544: 1, H0545: 1, H0046: 1, H0123: 1, H0057: 1, H0416: 1, H0687: 1, H0290: 1, H0030: 1, L0455: 1, H0316: 1, H0135: 1, H0040: 1, H0634: 1, H0100: 1, H0560: 1, S0426: 1, L0763: 1, L0770: 1, L0769: 1, L0761: 1, L0800: 1, L0803: 1, L0378: 1, L0806: 1, L0659: 1, L0809: 1, L0663: 1, L0665: 1, S0428: 1, S0053: 1, S0216: 1, H0520: 1, H0682: 1, H0670: 1, H0518: 1, H0694: 1, H0134: 1, H0576: 1, L0754: 1, L0750: 1,

378	HTNBX62	830831	388	897 - 1235	1793	Glu-10 to Arg-21, Arg-31 to Lys-47, Val-58 to Glu-63.	L0755: 1, L0731: 1, L0758: 1, S0031: 1, S0011: 1, H0136: 1, H0423: 1 and H0422: 1. — AR052: 36, AR053: 32, AR096: 24, AR089: 16, AR033: 13, AR039: 12, AR055: 12, AR060: 10, AR104: 10, AR061: 5 S0358: 9, S0380: 2, H0656: 1, S0418: 1, H0580: 1, H0587: 1, H0632: 1, H0581: 1, H0046: 1, H0024: 1, S0003: 1, T0023: 1, H0388: 1, T0067: 1, H0561: 1, H0641: 1, H0529: 1, H0651: 1, S0152: 1, H0522: 1, L0747: 1, L0779: 1, L0777: 1, L0752: 1, H0445: 1 and H0422: 1.	92-113, 72-88
379	HLICA76	831204	389	154 - 1320	1794	4	AR096: 3, AR053: 1, AR052: 1, AR089: 1, AR060: 1, AR033: 1, AR039: 0, AR061: 0, AR104: 0, AR055: 0 L0439: 11, L0777: 10, L0803: 9, L0794: 6, L0766: 6, L0438: 6, S0358: 4, L0764: 3, L0809: 3, L0789:	131-147, 185-201, 113-129

380	HAPOA59	831307	390	354 - 935	1795		128-144
					Phe-19 to Arg-27, Pro-46 to Phe-54, Ser-85 to Leu-91, Arg-115 to Thr-122.	AR055: 10, AR052: 9, AR060: 8, AR053: 8, AR033: 7, AR061: 7, AR096: 6, AR089: 6, 3, L0748: 3, L0740: 3, H0355: 2, L0435: 2, L0775: 2, L0530: 2, S0380: 2, L0747: 2, L0756: 2, L0758: 2, L0588: 2, L0362: 2, H0171: 1, H0556: 1, H0713: 1, H0583: 1, L0418: 1, S0282: 1, S0354: 1, S0376: 1, S0444: 1, S0360: 1, S0278: 1, T0040: 1. H0069: 1, H0120: 1, H0581: 1, H0046: 1, H0024: 1, H0510: 1, S6028: 1, H0615: 1, H0428: 1, L0483: 1, H0038: 1, H0413: 1, S0438: 1, S0426: 1, L0796: 1, L0646: 1, L0645: 1, L0767: 1, L0768: 1, L0650: 1, L0375: 1, L0776: 1, L0659: 1, L4559: 1, L0665: 1, S0374: 1, H0547: 1, H0519: 1, H0672: 1, H0710: 1, S0044: 1, S0406: 1, L0750: 1, L0779: 1, L0755: 1, L0731: 1, S0026: 1, H0216: 1, H0542: 1 and S0424: 1.	

381	HLMMX3 7	831314	391	112 - 450	1796	Arg-13 to Gln-20.			58-79
						AR104: 4, AR039: 4 L0766: 4, L0438: 4, H0013: 3, H0575: 3, H0050: 3, H0616: 3, S0126: 3, L0439: 3, L0757: 3, L0758: 3, H0556: 2, H0341: 2, T0110: 2, H0572: 2, L0770: 2, L0803: 2, L0759: 2, S0420: 1, S0360: 1, S0408: 1, S0132: 1, H0619: 1, S6016: 1, T0109: 1, H0318: 1, H0266: 1, S0250: 1, H0615: 1, H0428: 1, H0039: 1, S0036: 1, H0135: 1, H0591: 1, H0038: 1, H0040: 1, H0056: 1, T0041: 1, H0560: 1, L0769: 1, L0637: 1, L0794: 1, L0804: 1, L0666: 1, L0664: 1, H0144: 1, H0520: 1, H0519: 1, H0648: 1, H0539: 1, S0152: 1, H0696: 1, S0406: 1, H0540: 1, L0748: 1, L0740: 1, L0747: 1, L0756: 1, L0752: 1, L0592: 1, L0581: 1, L0593: 1, L0096: 1 and H0423: 1. AR055: 10, AR033: 6, AR052: 6, AR096: 5, AR060: 5, AR053: 5,			

382	HWLHW6 4	831475	392	115 - 990	1797	Lys-113 to Thr-119, Asp-156 to Gly-162.	AR061: 5, AR089: 5, AR104: 3, AR039: 2 S0192: 7, L0803: 5, L0800: 4, L0789: 4, L0758: 4, L0804: 3, L0747: 3, H0255: 2, L0764: 2, L0659: 2, L0666: 2, L0754: 2, L0779: 2, S0420: 1, L0617: 1, S0376: 1, H0550: 1, H0618: 1, H0597: 1, H0350: 1, H0266: 1, H0286: 1, H0688: 1, H0622: 1, H0616: 1, H0494: 1, L0761: 1, L0645: 1, L0774: 1, L0656: 1, L0382: 1, L0809: 1, H0684: 1, S0436: 1, L0601: 1 and H0665: 1. AR052: 10, AR096: 7, AR053: 7, AR033: 7, AR089: 5, AR060: 5, AR104: 3, AR055: 2, AR039: 2, AR061: 2 H0031: 9, L0659: 7, S0358: 5, H0622: 5, H0494: 5, L0743: 4, S0132: 3, H0040: 3, L0800: 3, L0771: 3, S0354: 2, S0408: 2, H0014: 2, L0483: 2, L0764: 2, L0783: 2, L0438: 2, L0587: 2, L0601: 2, S0114:	247-263, 129-145

| 383 | HHERA41 | 831577 | 393 | 447 - 860 | 1798 | Tyr-14 to Leu-27, Glu-39 to Ser-47. | AR096: 5, AR033: 4, AR053: 4, AR104: 4, AR060: 3, AR052: 3, AR055: 3, AR089: 3, AR039: 2, AR061: 2 L0758: 3, S0358: 2, L0521: 2, L0439: 2, S0114: 1, H0341: 1, S0442: 1, H0734: 1, H0411: 1, H0592: 1, S0280: 1, L0021: 1, H0263: 1, S0214: 1, S0438: 1, S0422: 1, L0764: 1, L0766: 1, L0776: 1, L0783: 1, L0809: 1, L0789: 1, L0663: 1, H0696: 1, L0748: 1, L0740: 1, L0745: 1, | 1, H0661: 1, S0356: 1, S0442: 1, S0360: 1, H0592: 1, H0587: 1, H0036: 1, H0590: 1, H0024: 1, H0510: 1, H0252: 1, H0039: 1, H0553: 1, S0440: 1, L0772: 1, L0646: 1, L0374: 1, L0773: 1, L0766: 1, L0803: 1, L0804: 1, L0774: 1, L0784: 1, L0806: 1, L0653: 1, L0655: 1, S0374: 1, S0328: 1, S3012: 1, L0749: 1, L0731: 1, L0758: 1 and H0677: 1. | 102-120, 69-85, 50-66 |

384	HFXJT43	831638	394	10 - 528	1799	Asn-2 to Gly-7, Thr-24 to Ser-29, Pro-65 to Ser-70, Ser-126 to Thr-132, Thr-161 to Leu-166.	L0777: 1, L0755: 1, L0759: 1, L0596: 1 and H0543: 1. AR055: 14, AR053: 13, AR052: 12, AR060: 12, AR033: 10, AR096: 10, AR089: 8, AR061: 7, AR104: 6, AR039: 4 H0596: 4, L0754: 4, H0521: 3, L0439: 3, H0580: 2, H0486: 2, T0010: 2, S0250: 2, H0616: 2, L0740: 2, L0759: 2, H0624: 1, H0171: 1, S0282: 1, S0046: 1, H0485: 1, H0156: 1, H0581: 1, H0051: 1, H0355: 1, S0003: 1, S0214: 1, H0111: 1, H0090: 1, H0264: 1, S0386: 1, L0766: 1, L0651: 1, S0122: 1, H0518: 1, S0152: 1, H0522: 1, L0744: 1, L0777: 1, L0731: 1, L0758: 1, S0436: 1 and S0242: 1.	107-123, 142-158
385	HE8CL14	831872	395	304 - 1671	1800	Gly-37 to Leu-43, Ala-114 to Arg-122.	AR053: 17, AR096: 15, AR052: 14, AR055: 13, AR089: 11, AR060: 10, AR033: 8, AR061: 8, AR104: 7, AR039: 3 L0754: 6, L0766: 4,	122-150, 311-340, 1-34, 46-65, 289-309, 223-243, 18-34

| 386 | HLWFJS9 | 832119 | 396 | 10 - 1077 | 1801 | Gly-22 to Arg-31, Pro-33 to Pro-40, Ala-44 to Lys-51, Ser-57 to Asp-62, Ser-68 to Lys-95. | AR033: 5, AR089: 4, AR060: 3, AR061: 2, AR096: 1, AR053: 1, AR055: 1, AR052: 0, AR104: 0, AR039: 0 L0439: 8, L0777: 8, L0666: 4, S0010: 3, H0615: 3, L0637: 3, L0659: 3, L0664: 3, H0648: 3, L0748: 3, L0731: 3, S0412: 3, S0132: 2, S0476: 2, S0222: 2, H0497: 2, H0031: 2, L0774: 2, L0665: 2, H0144: | |
| | | | | | | | S0354: 3, L0764: 3, L0803: 3, L0748: 3, H0638: 2, H0013: 2, H0051: 2, S0002: 2, L0805: 2, L0664: 2, L0777: 2, L0731: 2, L0758: 2, L0759: 2, H0721: 2, H0624: 1, H0171: 1, H0556: 1, H0661: 1, H0486: 1, H0318: 1, H0009: 1, H0570: 1, H0594: 1, S0214: 1, H0169: 1, H0038: 1, H0616: 1, H0561: 1, L0761: 1, L0651: 1, L0790: 1, L0792: 1, H0648: 1, H0672: 1, L0439: 1, L0745: 1, L0779: 1, L0752: 1, L0596: 1, L0599: 1 and L0362: 1. | 326-344, 172-188 |

| 387 | HAJCQ05 | 832451 | 397 | 100 - 885 | 1802 | Pro-70 to Lys-75, Leu-159 to Gln-173, Arg-227 to Glu-235. | 2, L0438: 2, L0754: 2, L0757: 2, L0758: 2, S0194: 2, H0171: 1, H0265: 1, H0717: 1, S0110: 1, H0669: 1, S0358: 1, S0300: 1, H0369: 1, H0550: 1, S6016: 1, S0414: 1, H0013: 1, H0427: 1, H0599: 1, H0327: 1, H0123: 1, H0553: 1, H0628: 1, H0032: 1, H0264: 1, H0488: 1, S0438: 1, L0769: 1, L0805: 1, L0809: 1, L0663: 1, S0374: 1, S0148: 1, H0435: 1, H0659: 1, H0670: 1, S0328: 1, S0004: 1, H0696: 1, L0744: 1, L0753: 1, L0755: 1, L0759: 1, S0031: 1, S0434: 1, H0667: 1 and H0506: 1. AR052: 8, AR039: 7, AR033: 7, AR061: 6, AR089: 6, AR096: 6, AR104: 5, AR055: 5, AR053: 4, AR060: 4 H0617: 5, S0418: 4, L0769: 4, L0751: 3, L0731: 3, H0657: 2, H0635: 2, H0618: 2, H0581: 2, H0546: 2, H0606: 2, H0561: 2, L0794: 2, L0439: 2, S0284: | 43-62, 120-137, 9-98-114, 9-25, 200-216 |

388	HAGHC54	832485	398	208 - 597	1803	Ser-119 to Cys-125.	1, H0265: 1, S0420: 1, S0358: 1, S0046: 1, H0486: 1, H0253: 1, H0318: 1, H0545: 1, H0510: 1, S0314: 1, L0483: 1, H0213: 1, H0551: 1, H0380: 1, H0647: 1, L0644: 1, L0764: 1, L0499: 1, L0655: 1, L0659: 1, L0666: 1, H0698: 1, H0547: 1, H0670: 1, H0672: 1, S3012: 1, L0754: 1, L0745: 1, L0749: 1, L0779: 1, L0758: 1, H0445: 1 and H0543: 1.	AR089: 6, AR052: 6, AR060: 6, AR033: 6, AR055: 5, AR096: 4, AR053: 3, AR061: 3, AR104: 2, AR039: 1 L0748: 8, S0346: 2, H0144: 2, L0754: 2, H0656: 1, S0358: 1, S0408: 1, H0331: 1, H0620: 1, L0805: 1, L0531: 1, H0682: 1 and S0424: 1.	45-65, 99-118
389	HULAY53	832587	399	181 - 516	1804			2 AR053: 3, AR033: 2, AR055: 2, AR052: 1, AR060: 1, AR061: 0, AR096: 0, AR089: 0,	91-107, 74-90

390	HE9DL48	832624	400	9 - 458	1805	Met-1 to Gly-7.	AR039: 0, AR104: 0	AR096: 170, AR052: 156, AR089: 119, AR060: 98, AR053: 72, AR039: 53, AR104: 47, AR033: 42, AR061: 39, AR055: 14 H0144: 2	95-113, 24-40
391	HFKEH50	833067	401	323 - 1603	1806	Ser-107 to Gly-115, Cys-202 to Thr-214, Glu-241 to Gly-248, Thr-265 to Leu-276, Gly-298 to Gly-305, Ala-382 to Gly-389, Thr-402 to Gly-414.		AR089: 3, AR060: 1, AR053: 1, AR033: 1, AR039: 0, AR104: 0, AR096: 0, AR052: 0, AR061: 0, AR055: 0 L0439: 8, L0751: 6, L0747: 6, L0665: 5, L0438: 4, L0779: 4, H0012: 3, L0748: 3, H0620: 2, H0594: 2, H0424: 2, H0553: 2, S0144: 2, L0769: 2, L0771: 2, L0809: 2, H0144: 2, H0593: 2, S0027: 2, L0777: 2, L0758: 2, L0587: 2, H0422: 2, H0171: 1, H0664: 1, H0619: 1, S0222: 1, H0492: 1, H0618: 1, H0581: 1, H0052: 1, H0150: 1, H0024: 1, S0388: 1, S0364: 1, H0135: 1, H0040: 1, L0640: 1, L0761: 1, L0372:	83-103, 223-239

392	HUSXK-49	834541	402	966 - 475	1807	Asn-34 to Arg-43, Arg-96 to Phe-102, Phe-106 to Gly-121, Gln-153 to Thr-158.	1, L0773: 1, L0648: 1, L0662: 1, L0766: 1, L0774: 1, L0629: 1, L0666: 1, L0664: 1, H0658: 1, H0521: 1, S3014: 1 and H0543: 1. / AR039: 24, AR053: 17, AR052: 17, AR033: 16, AR055: 14, AR089: 13, AR096: 12, AR104: 9, AR060: 9, AR061: 7 L0758: 4, H0014: 1, S0051: 1, H0038: 1, H0413: 1, H0529: 1, L0770: 1, L0769: 1, L0794: 1 and L0752: 1.	52-69, 77-93
393	HTSFU12	834610	403	73 - 420	1808	Arg-8 to Glu-15, Gln-38 to Gln-43, Thr-50 to Arg-68, Gln-95 to Gln-106.	AR055: 11, AR061: 7, AR096: 7, AR089: 6, AR060: 6, AR052: 6, AR033: 6, AR053: 5, AR039: 1, AR104: 0 L0761: 7, L0747: 6, S0045: 4, L0766: 4, L0755: 4, L0770: 3, S0126: 3, L0731: 3, H0657: 2, H0730: 2, L0623: 2, H0546: 2, H0150: 2, H0012: 2, H0620: 2, H0529: 2, H0739: 1, S6024: 1, T0049: 1, H0381: 1, H0663: 1, H0306: 1,	65-99

394	HELHM15	83-4810	404	978-394	1809		54-78
					Pro-12 to Thr-38, Tyr-86 to Trp-92, Glu-142 to Trp-150.	H0549: 1, S0222: 1, H0586: 1, H0333: 1, H0486: 1, H0599: 1, T0048: 1, H0597: 1, H0544: 1, H0545: 1, H0567: 1, H0571: 1, H0083: 1, H0428: 1, T0006: 1, L0142: 1, H0617: 1, L0055: 1, S0036: 1, H0087: 1, H0412: 1, T0041: 1, S0438: 1, L0763: 1, L5565: 1, L0372: 1, L0803: 1, L0806: 1, L0805: 1, L0776: 1, L0783: 1, L0383: 1, S0296: 1, S0380: 1, H0710: 1, H0528: 1, S0406: 1, H0576: 1, H0631: 1, L0611: 1, S0027: 1, L0757: 1, L0758: 1, L0588: 1, H0423: 1 and H0506: 1. AR055: 15, AR039: 10, AR096: 9, AR089: 8, AR033: 8, AR053: 8, AR052: 7, AR060: 7, AR061: 6, AR104: 6, L0439: 5, L0747: 5, L0731: 4, L0499: 2, L0774: 2, L0805: 2, L0665: 2, L0438: 2, L0743: 2, L0744: 2, L0757: 2, L0759: 2, H0556: 1, H0713: 1, H0583: 1	

						I, S0045: 1, H0587: 1, H0486: 1, H0599: 1, H0581: 1, H0530: 1, II05544: 1, H0163: 1, H0090: 1, H0100: 1, L0770: 1, L5566: 1, L0364: 1, L0649: 1, L0803: 1, L0659: 1, L0809: 1, L0789: 1, L0352: 1, S0380: 1, L0749: 1, L0750: 1, L0758: 1, L0581: 1 and H0667: 1.		
395	HTEIJP13	834931	405	665 - 1147	1810	Pro-17 to Pro-23, Arg-40 to Tyr-50, Arg-143 to Ala-154.	AR053: 23, AR052: 20, AR096: 18, AR055: 16, AR060: 13, AR089: 13, AR104: 9, AR061: 9, AR033: 9, AR039: 7 H0616: 3, L0758: 3, L0717: 1, H0038: 1 and L0779: 1.	65-102, 85-102
396	HDQHB46	835271	406	174 - 698	1811	Asp-9 to Asn-21, Pro-24 to Ser-38, Thr-54 to Tyr-61, Asp-126 to Asn-131, Asp-133 to Asp-138, Cys-167 to Ile-175.	AR096: 5, AR052: 3, AR089: 3, AR033: 2, AR053: 2, AR060: 2, AR039: 2, AR055: 1, AR061: 1, AR104: 0 H0641: 10, H0521: 10, H0575: 6, L0599: 6, H0638: 4, H0435: 3, L0758: 3, L0600: 3, H0616: 2, H0413: 2, H0423: 2, T0049: 1, 3	136-162

397	HCETE50	835488	407	158 - 595	AR033: 8, AR055: 2, AR039: 2, AR061: 2, AR089: 2, AR060: 1, AR096: 1, AR104: 1, AR052: 0, AR053: 0 L0439: 25, L0438: 5, L0742: 5, S0010: 4, S0412: 2, S0222: 1, H0592: 1, H0013: 1, H0156: 1, H0194: 1, H0178: 1, H0024: 1, S0051: 1, T0010: 1, L0455: 1, S0036: 1, L0371: 1, L0794: 1, L0809: 1, H0547: 1, H0539: 1 and L0786: 1.	H0657: 1, H0580: 1, H0486: 1, H0042: 1, H0123: 1, H0375: 1, H0031: 1, H0038: 1, H0412: 1, H0652: 1, L0648: 1, L0794: 1, L0776: 1, L0787: 1, H0518: 1, H0522: 1 and H0707: 1.	101-134, 22-38, 124-140, 49-65
398	HDTBO48	835717	408	123 - 896	AR053: 67, AR052: 49, AR096: 48, AR089: 35, AR039: 25, AR060: 22, AR104: 20, AR033: 16, AR055: 8, AR061: 6 H0486: 2		180-214
399	HODGL01	835896	409	813 - 172	AR055: 5, AR053: 4, AR060: 3, AR061: 3,	Trp-6 to Ala-14, Ala-33 to Gly-43,	154-190, 123-141

| Trp-68 to His-73. | AR033: 3, AR052: 3, AR089: 3, AR039: 3, AR096: 2, AR104: 1 H0250: 9, H0271: 7, L0743: 6, L0751: 6, L0745: 6, S0360: 5, H0265: 4, L0666: 4, H0521: 4, H0556: 3, H0716: 3, S0280: 3, L0662: 3, H0713: 2, H0662: 2, S0278: 2, H0486: 2, H0615: 2, L0805: 2, L0655: 2, L0664: 2, H0672: 2, S0378: 2, L0746: 2, S0434: 2, L0581: 2, S0196: 2, H0650: 1, H0656: 1, S0116: 1, S0420: 1, S0444: 1, H0580: 1, H0619: 1, S6022: 1, H0635: 1, H0427: 1, L0021: 1, H0253: 1, S0474: 1, H0457: 1, H0355: 1, S0334: 1, H0286: 1, S0312: 1, H0252: 1, H0032: 1, H0634: 1, H0063: 1, H0551: 1, S0440: 1, H0649: 1, L0771: 1, L0649: 1, L0803: 1, L0774: 1, L0805: 1, L0636: 1, L0791: 1, L0793: 1, L0665: 1, H0690: 1, H0670: 1, H0660: 1, H0648: 1, H0518: 1, S0174: 1, |

400	HE8TO35	835965	410	1710 - 2150	1815	Pro-45 to Gln-55.	AR061: 3, AR096: 2, AR055: 2, AR060: 2, AR104: 2, AR033: 1, AR053: 1, AR089: 1, AR052: 1, AR039: 0 H0046: 2, H0009: 2, H0090: 2, H0494: 2, L0438: 2, H0547: 2, H0521: 2, L0439: 2, L0777: 2, H0543: 2, H0556: 1, S0342: 1, S0045: 1, H0619: 1, H0632: 1, H0013: 1, H0156: 1, L0021: 1, H0575: 1, H0318: 1, S0003: 1, L0483: 1, H0628: 1, H0623: 1, H0561: 1, L0761: 1, L0803: 1, L0804: 1, L0659: 1, L0382: 1, H0144: 1, H0539: 1, S0152: 1, H0478: 1, H0631: 1, L0741: 1, L0740: 1 and L0591: 1.	H0555: 1, H0436: 1, S0032: 1, L0744: 1, H0343: 1, L0584: 1, S0242: 1, H0422: 1 and H0506: 1.	117-133, 90-106
401	HOHCB06	836191	411	17 - 619	1816		AR096: 1, AR039: 1, AR052: 1, AR104: 1, AR061: 1, AR089: 1, AR055: 1, AR053: 0,		143-176

AR060: 0, AR033: 0 L0744: 8, L0777: 8, L0749: 6, S0126: 4, S0358: 3, H0622: 3, L0805: 3, H0519: 3, H0624: 2, S0476: 2, L0717: 2, H0486: 2, H0012: 2, S0250: 2, L0662: 2, L0803: 2, L0659: 2, L0519: 2, L0663: 2, L0438: 2, H0520: 2, H0435: 2, L0751: 2, L0747: 2, L0759: 2, H0685: 1, S0212: 1, S0442: 1, H0729: 1, H0550: 1, H0013: 1, S0280: 1, H0599: 1, H0575: 1, H0123: 1, L0471: 1, H0057: 1, H0266: 1, H0687: 1, H0292: 1, H0688: 1, H0030: 1, H0644: 1, T0041: 1, L0770: 1, L0771: 1, L0768: 1, L0774: 1, L0655: 1, L0661: 1, L0665: 1, H0724: 1, H0547: 1, S0330: 1, H0539: 1, H0518: 1, S0152: 1, H0555: 1, S0390: 1, L0748: 1, L0439: 1, L0740: 1, L0779: 1, L0755: 1, L0731: 1, H0595: 1, L0591: 1, L0593: 1, S0192: 1 and S0196: 1.

| 402 | H2CBN10 | 836762 | 412 | 173 - 1075 | 1817 | Arg-195 to Phe-203, Ser-258 to Thr-264. | AR033: 380, AR061: 335, AR060: 243, AR104: 243, AR055: 238, AR096: 231, AR089: 178, AR053: 132, AR052: 131, AR039: 122 L0750: 2, H0580: 1, S0010: 1, T0110: 1, H0457: 1, H0436: 1, L0779: 1, L0752: 1 and H0543: 1. | 116-138, 202-226, 49-67, 148-166, 270-286, 174-190, 99-115, 22-38, 1-17, 78-94 |
| 403 | HBJNB08 | 836997 | 413 | 130 - 1266 | 1818 | Tyr-20 to Asn-26, Ala-37 to Ser-46, Thr-99 to Glu-105, Cys-163 to Arg-171, Tyr-204 to Leu-215, His-279 to Phe-285, Ala-334 to Ala-349, Ala-363 to Gly-379. | AR033: 2, AR053: 2, AR089: 2, AR060: 2, AR052: 1, AR096: 1, AR039: 1, AR061: 1, AR055: 0 L0750: 8, H0318: 6, L0764: 6, S0002: 5, L0771: 5, L0665: 5, L0438: 5, L0747: 5, S0442: 4, H0046: 4, L0655: 4, L0809: 4, L0666: 4, L0740: 4, S0356: 3, S0444: 3, H0486: 3, L0646: 3, L0794: 3, L0766: 3, S0360: 2, H0036: 2, S0426: 2, L0372: 2, L0773: 2, L0776: 2, L0659: 2, L0663: 2, H0519: 2, H0555: 2, L0777: 2, S0436: 2, L0596: 2, L0591: 2, L0362: 2, H0542: 2, H0506: 2, S0212: 1, S0045: 1, H0575: | 301-328, 288-304 |

| 404 | HHAMF80 | 837474 | 414 | 110 - 427 | 1819 | Ser-3 to Gly-12, Ala-16 to Arg-28, Lys-62 to Leu-68. | 1, H0590: 1, S0010: 1, S0346: 1, H0705: 1, H0581: 1, H0052: 1, T0110: 1, H0597: 1, H0239: 1, H0622: 1, H0644: 1, H0674: 1, H0163: 1, H0591: 1, H0038: 1, H0087: 1, H0100: 1, S0448: 1, S0440: 1, S0142: 1, H0529: 1, L0763: 1, L0804: 1, L0775: 1, L0651: 1, L0806: 1, L0805: 1, L0783: 1, L0790: 1, L0791: 1, L0664: 1, H0701: 1, H0593: 1, H0670: 1, H0539: 1, S0406: 1, S3012: 1, S0028: 1, L0439: 1, L0751: 1, L0755: 1, H0445: 1, S0434: 1, H0423: 1 and S0424: 1. AR096: 1, AR089: 1, AR104: 1, AR033: 1, AR061: 1, AR060: 0, AR053: 0, AR052: 0, AR055: 0, AR039: 0 H0599: 2, L0663: 2, S0136: 2, L0740: 2, S0418: 1, H0550: 1, H0592: 1, H0587: 1, H0373: 1, H0090: 1, S0422: 1, L0763: 1, S0052: 1, S0013: 1, H0696: | 41-57, 77-98 |

405	HDPUR66	837522	415	199 - 771	1820	Gly-10 to Phe-18, Gly-28 to Asp-40.	1, L0749: 1, L0779: 1 and L0485: 1. AR060: 12, AR096: 7, AR039: 5, AR053: 4, AR052: 3, AR033: 3, AR055: 3, AR089: 3, AR104: 3, AR061: 2, S6022: 1, H0486: 1, H0560: 1, L0565: 1 and H0521: 1.	124-143
406	HBWBX66	837523	416	183 - 656	1821	Gln-10 to Arg-16, Leu-31 to Thr-38, Val-49 to Arg-55, Cys-77 to Ser-82, Ser-102 to Ala-107.	AR089: 1, AR053: 1, AR033: 1, AR104: 1, AR061: 0, AR039: 0, AR055: 0, AR096: 0, AR060: 0, AR052: 0, S0386: 2, S0420: 1, H0013: 1, H0457: 1, S0250: 1, S0390: 1, L0596: 1 and H0422: 1.	58-74
407	HMHBR95	837526	417	22 - 531	1822	Leu-14 to Asp-19, Gly-47 to Trp-55, Ser-102 to Ser-107, Asp-136 to Cys-143.	AR104: 6, AR061: 2, AR096: 2, AR060: 1, AR053: 1, AR089: 1, AR033: 0, AR055: 0, AR052: 0, L0745: 12, L0771: 7, L0766: 3, L0746: 3, L0777: 3, L0764: 2, L0775: 2, L0779: 2, L0757: 2, L0404: 1, S0360: 1, H0351: 1,	26-42, 55-71, 145-161, 110-126

| 408 | HEGAU68 | 837527 | 418 | 5 - 388 | 1823 | Gly-24 to Gly-29, Thr-36 to Asp-41, Ala-47 to Pro-52. | AR089: 11, AR060: 8, AR096: 8, AR033: 6, AR052: 4, AR053: 4, AR039: 4, AR104: 4, AR055: 3, AR061: 3 L0744: 9, L0731: 8, L0439: 7, H0144: 5, L0749: 5, L0748: 4, L0745: 4, L0758: 4, S0040: 3, H0013: 3, H0038: 3, S0344: 3, L0769: 3, L0773: 3, L0755: 3, H0306: 2, S0356: 2, S0358: 2, H0550: 2, H0392: 2, S0280: 2, H0620: 2, T0003: 2, H0598: 2, S0036: 2, H0623: 2, S0002: 2, L0662: 2, L0768: 2, L0561: 2, L0775: 2, L0776: 2, L0527: 2, L0783: 2, L0438: 2, S0126: 2, H0539: 2, S0152: 2, H0521: 2, S3014: 2, L0754: 2, L0747: 2, | H0441: 1, H0069: 1, H0052: 1, H0288: 1, H0286: 1, S0364: 1, H0634: 1, H0264: 1, H0494: 1, H0646: 1, L0772: 1, L0372: 1, L0800: 1, L0803: 1, L0774: 1, L0806: 1, L0788: 1 and H0672: 1. | 82-99 |

L0780: 2, L0752: 2, L0757: 2, L0591: 2, L0608: 2, L0362: 2, L0361: 2, L0601: 2, L0603: 2, H0170: 1, H0265: 1, H0556: 1, T0002: 1, S0114: 1, L0427: 1, S0116: 1, S0282: 1, H0402: 1, S0420: 1, S0354: 1, S0376: 1, S0360: 1, H0208: 1, S0045: 1, S0132: 1, S0476: 1, S0278: 1, H0549: 1, S0222: 1, S6014: 1, H0441: 1, H0438: 1, H0497: 1, H0333: 1, H0069: 1, L0021: 1, H0618: 1, S0010: 1, H0421: 1, H0251: 1, H0085: 1, H0327: 1, H0150: 1, H0178: 1, H0050: 1, H0024: 1, H0051: 1, H0375: 1, H0594: 1, H0188: 1, H0687: 1, S0022: 1, H0252: 1, H0615: 1, H0428: 1, H0622: 1, H0031: 1, H0644: 1, H0673: 1, H0674: 1, H0135: 1, H0163: 1, H0634: 1, H0087: 1, H0412: 1, H0056: 1, S0038: 1, H0100: 1, T0041: 1, H0429: 1, S0450: 1, S0142: 1, S0426: 1, H0529: 1, L0763: 1,

409	HMEAD61	837597	419	107 - 1093	1824	L0770: 1, L0796: 1, L0761: 1, L0667: 1, L0646: 1, L0764: 1, L0771: 1, L0766: 1, L0375: 1, L0655: 1, L0657: 1, L0659: 1, L0517: 1, L0383: 1, L0382: 1, L0543: 1, L0666: 1, L0664: 1, H0703: 1, S0374: 1, H0520: 1, H0519: 1, H0689: 1, H0682: 1, H0659: 1, H0658: 1, S0328: 1, S0404: 1, S0406: 1, S0027: 1, L0740: 1, L0746: 1, L0750: 1, L0759: 1, H0445: 1, L0480: 1, L0584: 1, S0242: 1, S0276: 1, H0543: 1, H0423: 1, H0422: 1, S0446: 1, L0600: 1 and H0352: 1. AR053: 15, AR096: 15, AR089: 12, AR052: 12, AR104: 9, AR060: 8, AR033: 7, AR039: 6, AR055: 6, AR061: 4 L0766: 5, L0439: 4, L0754: 4, L0758: 4, H0656: 3, H0031: 3, H0038: 3, H0657: 2, S0029: 2, S0222: 2, H0455: 2, H0618: 2, H0081: 2, H0617: 2, T0042: 2, S0210: 2, H0529: 2, Phe-80 to Gly-85, Glu-148 to Trp-157.	234-252, 18-34

| 410 | HDTDF94 | 837726 | 420 | 61 - 477 | 1825 | Pro-20 to Ser-28, Gly-59 to Leu-69, Tyr-101 to Ile-106. | (see list below) | 74-97, 29-56 |

L0769: 2, L0662: 2, L0665: 2, L0747: 2, L0777: 2,
H0445: 2, H0543: 2, H0170: 1, H0394: 1, H0556: 1,
T0002: 1, H0662: 1, S0046: 1, L0717: 1, H0392: 1,
H0497: 1, H0253: 1, H0318: 1, H0544: 1, H0178: 1,
L0157: 1, L0471: 1, H0051: 1, T0010: 1, H0408: 1,
H0266: 1, H0188: 1, H0290: 1, S0022: 1, H0135: 1,
H0090: 1, H0040: 1, H0634: 1, H0494: 1, S0448: 1,
H0641: 1, S0142: 1, S0344: 1, L0770: 1, L0637: 1,
L0771: 1, L0521: 1, L0768: 1, L0803: 1, L0806: 1,
L0653: 1, L0776: 1, L0655: 1, L0629: 1, L0659: 1,
L0791: 1, L0663: 1, L0664: 1, H0519: 1, H0682: 1,
H0539: 1, H0521: 1, H0522: 1, H0134: 1, H0214: 1,
L0779: 1, H0667: 1, H0542: 1, H0423: 1 and H0422: 1.

AR096: 5, AR061: 4,
AR039: 3, AR033: 3,
AR053: 3, AR060: 3,
AR055: 3, AR052: 3,

411	HKAJL51	837785	421	22 - 351	1826	Glu-2 to Ala-19, Leu-23 to Gln-40.		71-87, 46-62
						AR096: 2, AR055: 1, AR089: 1, AR033: 1, AR060: 1, AR052: 1, AR061: 1, AR039: 0, AR053: 0 L0754: 118, L0748: 42, H0553: 29, L0757: 15, L0755: 13, L0603: 11, H0030: 10, H0031: 10, H0644: 6, L0740: 6, L0142: 5, H0100: 5, L0731: 4, L0005: 3, H0551: 2, H0494: 2, L0439: 2, L0747: 2, L0749: 2, L0780: 2, S0242: 2, H0657: 1, S0418: 1, H0053: 1, H0036: 1, H0546: 1, L0471: 1, H0051: 1, H0328: 1, H0615: 1, L0143: 1, H0111: 1, H0413: 1, L0666: 1, L0663: 1, H0518: 1, S0332: 1, S0454: 1, H0704: 1, H0555: 1, L0756:	AR089: 2, AR104: 2 L0748: 5, H0024: 2, L0439: 2, H0662: 1, S0420: 1, S0132: 1, H0431: 1, H0586: 1, H0486: 1, H0013: 1, H0575: 1, L0518: 1, H0539: 1, H0521: 1, S0242: 1 and S0194: 1.	

Pro-64 to Thr-70, Glu-95 to Tyr-100, Lys-106 to Arg-115, Thr-139 to Ser-146, Arg-160 to Glu-166, Gly-205 to Gly-218, Ser-252 to Leu-258, Gly-278 to Thr-288, Gln-340 to Phe-350, Ser-378 to Gly-391, Gly-398 to Arg-423.	AR061: 0, AR055: 0, AR039: 0, AR060: 0, AR053: 0 L0743: 9, H0620: 8, L0754: 8, L0731: 8, L0742: 7, S0126: 6, H0486: 5, H0012: 4, S0250: 4, L0747: 4, H0051: 3, H0039: 3, L0770: 3, L0654: 3, L0780: 3, S0040: 2, H0294: 2, L0149: 2, H0586: 2, H0253: 2, H0052: 2, H0545: 2, H0050: 2, H0024: 2, H0622: 2, H0124: 2, S0036: 2, H0135: 2, S0112: 2, H0494: 2, L0662: 2, L0806: 2, L0659: 2, H0689: 2, H0435: 2, L0741: 2, L0740: 2, L0751: 2, L0779: 2, L0777: 2, L0752: 2, L0755: 2, L0366: 2, S0192: 2, H0624: 1, S6024: 1, H0295: 1, H0484: 1, S0420: 1, L0619: 1, S0356: 1, H0208: 1, S0046: 1, S0300: 1, H0351: 1, H0549: 1, H0455: 1, H0333: 1, H0575: 1, H0544: 1, H0123: 1, H0081: 1, S0050: 1, S0051: 1, H0594: 1, S0022: 1, H0551: 1,

415	IILJBJ45	838808	425	309 - 644	1830	Ser-56 to Asn-61.	H0059: 1, H0100: 1, S0002: 1, L0763: 1, L5575: 1, L0772: 1, L0646: 1, L0771: 1, L0803: 1, L0636: 1, L0647: 1, L0787: 1, L0793: 1, L0666: 1, L0665: 1, H0726: 1, H0547: 1, H0593: 1, S0044: 1, S0390: 1, S3014: 1, S0027: 1, S0028: 1, S0032: 1, L0750: 1, L0756: 1, L0757: 1, L0758: 1, L0592: 1 and L0603: 1.	2p22-p21	120435, 120435, 126600, 135300, 136435, 152790, 152790, 157170, 182601, 278300, 601071, 601771, 602134	88-107, 34-50, 61-77, 13-29
							AR089: 20, AR052: 14, AR033: 14, AR060: 11, AR096: 9, AR053: 9, AR055: 7, AR104: 7, AR061: 5, AR039: 5, S0358: 5, H0521: 4, S0418: 3, S0126: 3, H0658: 3, L0748: 3, L0740: 2, L0750: 2, S0040: 1, H0294: 1, H0228: 1, H0393: 1, H0357: 1, H0586: 1, H0490: 1, H0486: 1, H0013: 1, H0427: 1, H0098: 1, H0575: 1, S0010: 1, T0048: 1, H0581: 1, S0049: 1, L0471: 1, H0375: 1, H0266: 1, H0328: 1, H0688: 1, H0428: 1, H0039: 1, H0169: 1,			

| 416 | HSHCL04 | 838860 | 426 | 661 - 1014 | 1831 | Arg-31 to Asn-36. | AR096: 6, AR089: 8, AR060: 5, AR052: 5, AR053: 5, AR033: 4, AR055: 4, AR039: 3, AR061: 3, AR104: 2 S0053: 2, H0171: 1 and S0037: 1. | H0135: 1, H0372: 1, H0494: 1, H0560: 1, H0633: 1, S0144: 1, H0529: 1, L0654: 1, H0520: 1, H0435: 1, H0660: 1, S0330: 1, L0602: 1, L0439: 1, L0731: 1, H0668: 1, H0665: 1 and H0542: 1. | 1-24, 61-88, 53-70, 35-51 |
| 417 | HAJBR52 | 839006 | 427 | 349 - 1170 | 1832 | Met-1 to Gly-7, Ala-45 to Gly-53, Leu-76 to Phe-84, Lys-135 to Thr-141. | AR104: 1, AR053: 1, AR060: 1, AR033: 1, AR089: 0, AR096: 0, AR052: 0, AR061: 0, AR055: 0, AR039: 0 L0766: 7, L0758: 3, L0759: 3, H0038: 2, H0560: 2, L0804: 2, L0775: 2, L0751: 2, L0779: 2, L0595: 2, H0656: 1, S0212: 1, H0664: 1, S0354: 1, L0011: 1, H0156: 1, H0599: 1, S0346: 1, H0581: 1, H0673: 1, H0591: 1, H0413: 1, | 140-158, 22-38, 237-254, 105-121, 210-226 |

| 418 | HSLEK65 | 839237 | 428 | 53 - 730 | 1833 | Thr-184 to Phe-190, Thr-219 to Ser-226. | H0623: 1, S0038: 1, L0370: 1, H0561: 1, S0422: 1, L0770: 1, L0772: 1, L0642: 1, L0803: 1, L0774: 1, L0656: 1, L0663: 1, S0428: 1, H0519: 1, S0330: 1, H0539: 1, H0521: 1, H0555: 1, H0576: 1, L0588: 1, L0605: 1 and H0667: 1. | AR033: 2, AR104: 1, AR055: 1, AR060: 1, AR052: 1, AR096: 1, AR089: 1, AR061: 1, AR053: 1, AR039: 0 S0278: 13, S0144: 12, S0142: 9, H0521: 8, S0222: 6, S0282: 5, H0638: 5, S0344: 5, S0028: 5, L0731: 5, S0001: 4, S0045: 3, S0049: 3, L0755: 3, S0031: 3, H0351: 2, S0051: 2, H0100: 2, S0428: 2, L0756: 2, H0624: 1, H0716: 1, H0455: 1, H0333: 1, H0575: 1, H0052: 1, H0041: 1, H0009: 1, N0006: 1, T0010: 1, H0375: 1, S6028: 1, H0416: 1, H0617: 1, H0606: 1, H0068: 1, S0036: 1, S0112: 1, S0438: 1, S0440: | 1-25, 35-56, 188-210, 85-107, 155-171, 61-77 |

| 419 | IIWGAF42 | 839272 | 429 | 315 - 650 | 1834 | Met-1 to Thr-7, Leu-24 to Glu-31, Gln-34 to Gly-44, Gly-82 to Ser-87, Asp-94 to Leu-99, Ala-102 to Glu-107. | AR033: 29, AR039: 28, AR104: 25, AR096: 19, AR060: 14, L0805: 51, L0439: 31, L0741: 8, 6, L0777: 6, H0052: 5, H0617: 5, L0748: 4, L0750: 4, L0779: 4, L0753: 4, H0424: 3, S0036: 3, L0775: 3, L0809: 3, S0378: 3, S0040: 2, L0103: 2, H0046: 2, H0284: 2, T0006: 2, H0213: 2, S0038: 2, L0351: 2, L0764: 2, L0768: 2, L0794: 2, L0659: 2, H0670: 2, L0602: 2, L0747: 2, L0731: 2, L0758: 2, S0436: 2, L0592: 2, S0342: 1, S0282: 1, S0030: 1, H0484: 1, S0007: 1, S0278: 1, | 1, S0002: 1, L0763: 1, L0769: 1, L0637: 1, L0806: 1, L0658: 1, L0666: 1, S0126: 1, L0355: 1, S0332: 1, H0522: 1, S0044: 1, S0390: 1, S0436: 1 and L0599: 1. | 41-68 |

(amino acid contacts, second column of list: AR052: 29, AR053: 26, AR089: 23, AR055: 18, AR061: 12, L0776: 33, L0789: 8, L0438: 7, L0769: 6)

420	HOUEA63	839547	430	375 - 1598	1835			177-193
					Ser-10 to Asp-28, Ser-51 to Arg-85, Val-92 to Asn-97, Tyr-123 to Gly-133, Glu-138 to Lys-145, Thr-265 to Gly-276, Thr-303 to Gln-308, Leu-314 to Thr-321, Leu-331 to Thr-339, Lys-347 to Leu-354.	AR033: 5, AR055: 5, AR089: 4, AR052: 4, AR060: 4, AR096: 4, AR053: 4, AR061: 4, AR104: 2, AR039: 0 H0553: 3, H0494: 3, L0748: 3, H0457: 2, H0031: 2, H0521: 2, S0040: 1, S0218: 1, H0662: 1, S0418: 1, S0354: 1, S0045: 1, H0411: 1, H0549: 1, H0586: 1, H0497: 1, H0331: 1, H0486: 1, H0013: 1, H0036: 1, H0050: 1, S0036: 1, L0370: 1, S0002: 1, L0766:	H0261: 1, S0222: 1, H0441: 1, H0156: 1, T0082: 1, H0194: 1, H0231: 1, T0010: 1, S6028: 1, H0271: 1, L0483: 1, H0418: 1, H0181: 1, H0412: 1, S0112: 1, S0370: 1, S0144: 1, S0002: 1, L0520: 1, L0762: 1, L0763: 1, L0638: 1, L0772: 1, L0653: 1, L0636: 1, L0367: 1, L0788: 1, L0791: 1, L0665: 1, L0352: 1, H0672: 1, H0539: 1, S0032: 1, L0742: 1, L0740: 1 and H0667: 1.	

| 421 | HLWAW36 | 839561 | 431 | 213 1133 | 1836 | Ala 4 to Asn 18, Leu-69 to Gln-75, Asp-114 to Pro-119, Ala-153 to Arg-162, Glu-166 to Glu-202, Ala-209 to Ser-244. | AR096: 3, AR033: 2, AR061: 2, AR089: 2, AR053: 2, AR052: 2, AR039: 1, AR055: 1, AR060: 1, AR104: 1 L0748: 15, L0439: 10, H0046: 9, L0758: 8, L0596: 7, L0589: 7, H0013: 6, L0769: 6, L0666: 6, H0556: 5, H0341: 5, S0420: 5, L0766: 5, L0659: 5, H0521: 5, H0575: 4, H0083: 4, H0266: 4, H0553: 4, H0032: 4, H0551: 4, L0771: 4, L0775: 4, L0665: 4, H0518: 4, S0152: 4, L0740: 4. L0751: 4, H0170: 3, H0265: 3, H0657: 3, H0656: 3, S0418: 3, S0358: 3, S0476: 3, H0687: 3, H0628: 3, H0617: 3, H0090: 3, S0150: 3, L0646: 3, L0768: 3, L0776: 3, L0809: 3, L0664: 3, H0144: 3, H0547: 3, H0519: 3, H0711: 3, L0747: 3, L0752: 3, L0759: 3, 1, L0375: 1, H0144: 1, H0659: 1, S0027: 1, L0745: 1, L0599: 1, L0604: 1, H0543: 1 and S0424: 1. | 15q26.1 | 166800, 210900 | 241-268 |

H0445: 3, L0592: 3, H0677: 3, H0624: 2, S0134: 2, S0116: 2, H0483: 2, S0360: 2, S0045: 2, S0046: 2, H0619: 2, S0222: 2, T0039: 2, H0069: 2, H0427: 2, H0599: 2, H0318: 2, H0581: 2, H0052: 2, H0596: 2, H0150: 2, H0012: 2, H0014: 2, H0169: 2, H0124: 2, H0163: 2, H0264: 2, H0412: 2, H0623: 2, H0561: 2, S0382: 2, S0440: 2, H0652: 2, S0426: 2, H0529: 2, L0640: 2, L0764: 2, L0773: 2, L0662: 2, L0774: 2, L0375: 2, L0655: 2, L0526: 2, L0438: 2, H0659: 2, H0658: 2, H0710: 2, S0404: 2, S3014: 2, S0027: 2, L0754: 2, L0750: 2, L0777: 2, L0780: 2, L0731: 2, L0588: 2, L0485: 2, H0422: 2, S0424: 2, H0506: 2, H0008: 2, H0352: 2, H0220: 1, H0686: 1, H0713: 1, H0717: 1, H0295: 1, S0430: 1, H0583: 1, H0650: 1, S0110: 1, S0001: 1, H0484: 1, H0255: 1, H0661: 1,

H0663: 1, H0664: 1, H0662: 1, H0638: 1, S0356: 1, S0376: 1, S0444: 1, S0408: 1, S0132: 1, H0393: 1, L0717: 1, H0351: 1, S0278: 1, H0261: 1, H0403: 1, H0592: 1, H0586: 1, H0497: 1, H0333: 1, H0632: 1, H0257: 1, H0486: 1, H0250: 1, H0075: 1, H0635: 1, H0036: 1, H0590: 1, H0253: 1, I0421: 1, T0103: 1, T0110: 1, H0327: 1, H0545: 1, H0009: 1, H0123: 1, H0050: 1, H0051: 1, S0051: 1, T0010: 1, H0355: 1, H0188: 1, H0288: 1, S0312: 1, S0314: 1, H0615: 1, H0039: 1, H0622: 1, L0455: 1, S0366: 1, H0598: 1, H0135: 1, H0040: 1, H0413: 1, H0056: 1, H0100: 1, L0435: 1, L0564: 1, H0494: 1, L0475: 1, H0334: 1, H0560: 1, H0641: 1, H0633: 1, H0647: 1, I0646: 1, S0344: 1, S0208: 1, S0210: 1, L0369: 1, L0763: 1, L0770: 1, L0667: 1, L0772: 1, L0372: 1, L0800: 1,

| 422 | HDPHI63 | 839704 | 432 | 144 - 452 | 1837 | Glu-18 to Phe-29, Thr-36 to Pro-45. | L0521: 1, L0803: 1, L0650: 1, L0651: 1, L0653: 1, L0783: 1, L0383: 1, L0647: 1, S0428: 1, S0216: 1, S0374: 1, H0724: 1, L0352: 1, H0520: 1, H0365: 1, H0690: 1, H0435: 1, H0555: 1, H0187: 1, H0436: 1, H0627: 1, S3012: 1, S0037: 1, S0032: 1, L0743: 1, L0744: 1, L0749: 1, L0756: 1, L0779: 1, L0755: 1, L0757: 1, S0031: 1, H0595: 1, S0434: 1, S0436: 1, L0591: 1, L0599: 1, L0604: 1, L0593: 1, L0595: 1, L0601: 1, S0026: 1 and S0384: 1. | AR096: 10, AR039: 4, AR055: 4, AR033: 4, AR053: 3, AR089: 3, AR104: 3, AR052: 2, AR060: 2, AR061: 2 | | | 74-91 |
| 423 | HTEPM45 | 839875 | 433 | 132 - 1229 | 1838 | Leu-3 to Leu-16, Leu-48 to Phe-58, Gly-113 to Lys-121, Arg-136 to Phe-147, Pro-326 to Ser-346. | | AR096: 14, AR089: 10, AR060: 6, AR061: 6, AR055: 5, AR039: 5, AR052: 4, AR033: 4, AR053: 2, AR104: 2 | 6p25-p24 | 134570, 601090, 602028 | 88-106, 246-262, 63-79, 169-185 |

H0486: 102, S0360: 76, L0598: 39, H0251: 35, L0659: 32, H0144: 32, H0013: 31, H0624: 28, H0024: 26, H0050: 25, L0471: 25, L0662: 22, L0748: 22, H0619: 20, H0123: 20, S0003: 18, H0031: 15, H0170: 14, H0124: 14, H0328: 13, L0750: 13, H0644: 12, S0126: 12, S0028: 11, L0757: 11, S0196: 11, H0587: 10, S0214: 10, L0589: 10, S0040: 9, H0622: 9, L0731: 9, H0171: 8, S0356: 8, L0717: 8, H0586: 8, H0620: 8, H0252: 8, H0551: 8, H0352: 8, H0661: 7, H0081: 7, L0747: 7, L0755: 7, S0358: 6, H0598: 6, L0646: 6, L0771: 6, S3014: 6, H0343: 6, H0595: 6, S0212: 5, H0329: 5, H0208: 5, H0574: 5, H0316: 5, H0100: 5, L0666: 5, L0565: 5, H0658: 5, S0390: 5, S0027: 5, S0011: 5, S0192: 5, S0194: 5, S0376: 4, H0575: 4, H0039:

4, H0628: 4, H0090: 4,
UNKWN: 4, L0663: 4,
L0664: 4, S0374: 4, S0380:
4, L0744: 4, S0242: 4,
H0295: 3, H0645: 3, H0411:
3, H0546: 3, H0012: 3,
S0250: 3, L0768: 3, L0375:
3, H0684: 3, H0672: 3,
S0332: 3, L0754: 3, H0294:
2, H0663: 2, H0592: 2,
S0005: 2, H0333: 2, H0632:
2, H0485: 2, T0060: 2,
H0599: 2, H0309: 2, H0544:
2, H0545: 2, H0041: 2,
H0375: 2, H0553: 2, L0142:
2, H0647: 2, L0776: 2,
L0665: 2, H0648: 2, S0330:
2, S0378: 2, S0206: 2,
S0032: 2, L0751: 2, H0668:
2, S0384: 2, H0506: 2,
L0615: 1, S0342: 1, H0381:
1, S0116: 1, S0001: 1,
H0664: 1, H0125: 1, S0354:
1, T0008: 1, H0640: 1,
H0370: 1, H0391: 1, T0039:
1, H0101: 1, H0245: 1,
H0156: 1, L0021: 1, H0122:
1, H0318: 1, H0231: 1,
H0049: 1, T0003: 1, H0051:
1, H0286: 1, H0364: 1,

424	HTEBP06	839885	434	156 - 1244	1839				259-276
						H0428: 1, T0023: 1, L0143: 1, H0111: 1, H0163: 1, H0591: 1, H0038: 1, H0616: 1, H0058: 1, T0069: 1, H0080: 1, L0351: 1, L0564: 1, H0646: 1, H0654: 1, S0208: 1, L0763: 1, L0373: 1, L0764: 1, L0773: 1, L0648: 1, L0521: 1, L0767: 1, L0522: 1, L0775: 1, L0806: 1, L0607: 1, L0512: 1, L0634: 1, L0526: 1, L0783: 1, L0367: 1, H0547: 1, H0682: 1, H0659: 1, H0660: 1, H0666: 1, S0118: 1, S0037: 1, H0445: 1, L0590: 1, L0603: 1, H0665: 1, H0667: 1 and S0446: 1.	Met-1 to Ser-12, Asn-23 to Thr-33, Asn-35 to Gly-42, Pro-46 to Asp-51, Arg-86 to Asp-92, Ile-98 to Gly-108, Tyr-111 to Phe-128, Asn-140 to Cys-146, Gly-151 to Lys-182, Gly-190 to Ala-196, Leu-200 to Gln-212, Ile-217 to Lys-224,	AR104: 874, AR060: 684, AR055: 616, AR033: 568, AR061: 555, AR039: 520, AR089: 289, AR096: 146, AR052: 115, AR053: 114 H0038: 8, H0616: 6, L0758: 4, L0794: 3, H0545: 2, H0040: 1, L0768: 1 and L0790: 1.	

425	HSKY K23	839888	435	204-869	1840			132-148
						Val-316 to Asn-324. Asn-19 to Pro-28, Ile-45 to Tyr-52.	AR039: 19, AR052: 17, AR055: 17, AR053: 16, AR089: 15, AR096: 13, AR060: 13, AR104: 12, AR033: 10, AR061: 8 L0794: 7, S0152: 6, L0750: 6, L0777: 6, L0803: 4, L0748: 4, L0731: 4, L0757: 4, L0759: 4, L0804: 3, L0659: 3, L0752: 3, S0358: 2, S0444: 2, S0360: 2, S0045: 2, L0766: 2, L0751: 2, L0756: 2, S0031: 2, L0588: 2, H0663: 1, S0442: 1, H0580: 1, S0046: 1, H0393: 1, H0486: 1, H0575: 1, H0318: 1, H0041: 1, H0123: 1, H0375: 1, H0687: 1, S0003: 1, H0031: 1, S0144: 1, H0529: 1, L0763: 1, L0662: 1, L0774: 1, L0775: 1, L0806: 1, L0518: 1, L0789: 1, L0663: 1, H0672: 1, S0380: 1, H0521: 1, H0694. 1, S0406: 1, S0206: 1, L0740: 1, L0779: 1, L0755: 1, S0242: 1 and S0424: 1.	

426	HBUAD85	839958	436	117 - 953	1841		154-171
						Trp-10 to Gly-16, Ser-19 to Asp-31, Ser-46 to Lys-53, Pro-60 to Ile-78, Ser-85 to Leu-91, Leu-146 to Lys-154, Trp-237 to Arg-246.	AR052: 14, AR053: 8, AR033: 7, AR055: 7, AR104: 7, AR060: 5, AR096: 5, AR089: 4, AR061: 4, AR039: 1, L0777: 8, L0794: 7, L0803: 4, L0748: 4, L0749: 4, L0789: 3, L0759: 3, S0360: 2, H0644: 2, S0422: 2, L0770: 2, L0800: 2, L0766: 2, L0804: 2, L0740: 2, L0750: 2, L0779: 2, L0752: 2, L0755: 2, L0731: 2, L0758: 2, L0595: 2, S0116: 1, S0442: 1, H0729: 1, H0733: 1, S0300: 1, L0021: 1, H0575: 1, H0122: 1, S0182: 1, I10569: 1, H0090: 1, H0038: 1, H0412: 1, S0440: 1, L0371: 1, L0769: 1, L0761: 1, L0764: 1, L0771: 1, L0521: 1, L0768: 1, L5574: 1, L0783: 1, L0382: 1, L0809: 1, L0790: 1, L0663: 1, H0520: 1, H0547: 1, H0659: 1, H0522: 1, H0134: 1, H0436: 1, H0626: 1, L0747: 1, L0753: 1, L0757: 1, H0444: 1, S0436: 1, S0194: 1.	

427	IICE1N85	840000	437	777 - 1880	Leu-14 to Pro-22, Pro-127 to Pro-134, Ala-140 to Arg-145, Ser-189 to Gln-203, Leu-273 to Tyr-278.	S0276: 1, H0543: 1 and H0423: 1. AR089: 1, AR060: 1, AR039: 0, AR104: 0, AR055: 0, AR053: 0, AR061: 0, AR096: 0, AR033: 0	86-105
428	HROAX39	840008	438	30 - 341	Leu-38 to Trp-43, Ala-72 to Thr-77.	AR039: 35, AR055: 23, AR033: 19, AR052: 18, AR053: 17, AR089: 15, AR060: 12, AR096: 12, AR104: 11, AR061: 10, H0068: 2, H0619: 1, H0632: 1, L0471: 1, H0033: 1, H0124: 1, H0316: 1, L0747: 1 and H0136: 1.	46-65
429	IIIIETF37	840056	439	84 - 383	Ala-12 to Glu-17, Gly-29 to Arg-35, Leu-62 to Trp-68.	AR096: 5, AR052: 2, AR089: 2, AR033: 2, AR061: 2, AR060: 1, AR104: 1, AR055: 1, AR053: 0, AR039: 0, H0436: 2, S0354: 1, L0775: 1, L0658: 1, H0445: 1, H0543: 1 and H0422: 1.	67-87
430	HKAAS52	840160	440	40 - 873	Met-1 to Ala-13, Cys-38 to Ile-43, Arg-65 to Leu-70, Tyr-185 to Leu-192,	AR052: 4, AR033: 3, AR053: 3, AR089: 3, AR060: 2, AR096: 2, AR055: 2, AR061: 1,	71-88

						Lys-217 to Thr-226.	AR039: 0, AR104: 0 H0494: 3, H0559: 2, H0547: 2, L0740: 2, H0423: 2, H0265: 1, H0662: 1, S0348: 1, S0418: 1, H0370: 1, H0492: 1, H0318: 1, H0052: 1, H0194: 1, H0050: 1, H0006: 1, H0266: 1, L0351: 1, L0766: 1, L0655: 1, S0310: 1, H0689: 1, S0152: 1, H0522: 1, H0543: 1 and H0422: 1.		
431	HISES36	840222	441	136 - 747	1846	Ser-4 to Arg-13, Pro-15 to Trp-22.	AR039: 18, AR033: 12, AR104: 12, AR053: 9, AR052: 9, AR096: 9, AR055: 8, AR089: 8, AR060: 5, AR061: 5 L0741: 3, H0619: 2, T0010: 2, H0539: 2, H0717: 1, L0438: 1, H0435: 1, H0670: 1, H0521: 1, S0436: 1 and H0542: 1.		113-143, 62-81
432	HAPBL12	840579	442	215 - 1549	1847	Lys-16 to Leu-21, Glu-70 to Lys-83, Cys-98 to Ser-104, Arg-112 to Glu-118, Lys-155 to Ser-160, Asn-196 to Ser-205, Trp-234 to Ser-241,	AR060: 14, AR104: 13, AR033: 11, AR039: 10, AR055: 9, AR089: 8, AR096: 7, AR061: 7, AR053: 6, AR052: 6 L0777: 11, L0756: 4, L0596: 4, S0414: 3, H0038:		50-66, 178-194, 276-292

	121-137
Ala-303 to Ala-308, Thr-314 to Gly-321, Asn-349 to Gly-355, Pro-370 to Glu-378, His-384 to Glu-395, Gln-415 to Ile-421, Thr-438 to Leu-444.	3, L0659: 3, L0740: 3, H0265: 2, H0441: 2, S0003: 2, H0032: 2, H0616: 2, L0766: 2, H0144: 2, S0126: 2, L0439: 2, L0780: 2, L0759: 2, S0242: 2, H0542: 2, S0470: 1, S0342: 1, H0650: 1, H0341: 1, S0001: 1, S0282: 1, S0420: 1, S0007: 1, S0476: 1, H0619: 1, T0060: 1, H0013: 1, H0427: 1, H0098: 1, H0042: 1, H0581: 1, S0049: 1, H0052: 1, H0046: 1, H0024: 1, H0051: 1, S6028: 1, H0553: 1, H0644: 1, H0212: 1, H0634: 1, H0551: 1, H0647: 1, S0144: 1, S0344: 1, L0770: 1, L0769: 1, L0639: 1, L0772: 1, L0662: 1, L0794: 1, L0803: 1, L0805: 1, L0666: 1, L0663: 1, L0664: 1, S0374: 1, H0547: 1, H0648: 1, H0696: 1, L0754: 1, L0747: 1, L0752: 1, L0755: 1 and L0591: 1. AR039: 17, AR033: 11, AR096: 8, AR053: 8, AR052: 7, AR104: 7,
	1848
	330 - 1001
	443
	840671
HTJMJ95	
433	

| 434 | HTELT78 | 840700 | 444 | 177 - 998 | 1849 | Arg-5 to Glu-11. | AR089: 7, AR055: 6, AR060: 5, AR061: 5 L0766: 6, L0439: 6, L0749: 5, S0022: 3, H0628: 2, L0769: 2, L0774: 2, L0666: 2, S0152: 2, L0755: 2, H0170: 1, S0476: 1, H0333: 1, H0559: 1, H0270: 1, L0021: 1, H0599: 1, H0123: 1, H0014: 1, S0003: 1, H0617: 1, L0055: 1, H0068: 1, H0135: 1, H0488: 1, H0509: 1, L0763: 1, L0637: 1, L0761: 1, L0772: 1, L0662: 1, L0768: 1, L0650: 1, L0655: 1, L0382: 1, L0809: 1, L0751: 1, L0747: 1, L0750: 1, L0756: 1, L0777: 1, L0731: 1, L0758: 1 and L0759: 1. | 208-229, 235-251 |
| | | | | | | | AR053: 25, AR052: 24, AR055: 16, AR033: 13, AR089: 13, AR096: 12, AR060: 11, AR061: 9, AR104: 8, AR039: 5 L0748: 2, L0779: 2, L0759: 2, H0556: 1, L0534: 1, H0565: 1, H0616: 1, S0422: 1, S0126: 1, L0751: 1, L0749: 1, L0758: 1 and | |

435	HHFBP51	840811	445	100 - 690	1850	Pro-75 to Lys-91.	L0592: 1. AR089: 1, AR039: 1, AR055: 0, AR096: 0, AR061: 0, AR104: 0, AR060: 0, AR053: 0 L0774: 4, S0134: 2, H0383: 2, S0344: 2, L0803: 2, S0380: 2, H0650: 1, H0656: 1, S0360: 1, S0222: 1, H0486: 1, H0013: 1, H0009: 1, H0050: 1, S6028: 1, S0214: 1, T0023: 1, H0494: 1, H0561: 1, S0142: 1, S0002: 1, L0638: 1, L0512: 1, L0791: 1, H0547: 1, S0328: 1, H0579: 1, S0013: 1, L0742: 1, L0759: 1 and L0581: 1.	164-196, 43-75, 91-113, 138-156
436	IHIBCS13	840896	446	470 - 1249	1851	Thr-22 to Ser-36.	AR096: 10, AR089: 10, AR104: 9, AR039: 9, AR033: 6, AR053: 5, AR060: 5, AR052: 2, AR055: 2, AR061: 2	89-105
437	HAJAT72	841335	447	500 - 946	1852		AR039: 28, AR053: 17, AR096: 11, AR033: 10, AR052: 9, AR104: 9, AR089: 8, AR055: 7, AR060: 6, AR061: 4	79-95

| 438 | HTLHK92 | 842395 | 448 | 123 - 476 | 1853 | Glu-12 to Lys-31. | I10561: 1 and S0152: 1. AR039: 12, AR055: 8, AR033: 7, AR053: 7, AR089: 6, AR052: 6, AR096: 6, AR060: 5, AR061: 4, AR104: 4 L0774: 3, L0783: 3, L0777: 3, H0013: 2, H0024: 2, L0662: 2, L0768: 2, L0565: 2, L0751: 2, L0758: 2, L0603: 2, H0170: 1, S6024: 1, H0661: 1, S0360: 1, S0222: 1, H0370: 1, H0575: 1, H0618: 1, H0545: 1, S0388: 1, H0124: 1, S0440: 1, S0150: 1, S0142: 1, L0770: 1, L0769: 1, L0764: 1, L0649: 1, L0375: 1, L0634: 1, L0809: 1, L0666: 1, H0547: 1, L0743: 1, L0754: 1, L0749: 1, L0731: 1, L0757: 1, H0506: 1 and H0008: 1. | 52-71, 90-106 |
| 439 | HAGBQ10 | 843516 | 449 | 1475 - 594 | 1854 | Ser-9 to Ile-16, Asp-110 to Ala-119, Glu-289 to Tyr-294. | AR055: 496, AR039: 256, AR089: 232, AR060: 215, AR033: 209, AR053: 177, AR096: 155, AR052: 154, AR061: 146, AR104: 120 L0439: 5, L0779: 2, | 128-147, 266-282, 29-45 |

440	HCRBB73	844034	450	83 - 520	1855	L0777: 2, L0759: 2, H0156: 1, S0010: 1, S0049: 1, H0052: 1, H0328: 1, L0794: 1, L0804: 1, H0144: 1, L0438: 1, L0352: 1, L0758: 1, L0589: 1 and S0412: 1. AR096: 116, AR053: 115, AR089: 113, AR033: 94, AR052: 89, AR061: 79, AR055: 68, AR060: 67, AR039: 22, AR104: 20 L0794: 4, L0778: 1, T0048: 1, H0327: 1, H0012: 1, H0083: 1, H0038: 1, H0509: 1, L0770: 1, L0769: 1, L0659: 1, L0789: 1 and H0520: 1.	64-96, 3-34, 99-120, 38-55
441	HWHIIU11	844529	451	85 - 678	1856	Pro-55 to Lys-67, Lys-134 to Glu-144, Pro-166 to Asn-174, Pro-192 to Trp-197. AR089: 5, AR052: 4, AR053: 4, AR096: 3, AR061: 3, AR060: 3, AR055: 3, AR033: 3, AR104: 1, AR039: 0 L0748: 18, H0547: 8, L0731: 8, H0556: 7, H0039: 6, L0666: 6, H0046: 5, H0059: 5, L0775: 5, L0439: 5, L0755: 5, H0622: 4, L0662: 4, L0740: 4, L0751: 4, L0779: 4, H0575: 3,	21-54, 112-132, 67-89, 92-108

H0553: 3, H0529: 3, L0769: 3, L0659: 3, H0519: 3, L0588: 3, L0608: 3, L0593: 3, S0011: 3, H0255: 2, S0418: 2, S0046: 2, H0586: 2, S0049: 2, H0150: 2, H0424: 2, H0644: 2, H0560: 2, H0561: 2, S0002: 2, S0426: 2, L0763: 2, L0772: 2, L0646: 2, L0655: 2, L0527: 2, L0518: 2, L0783: 2, L0664: 2, L0665: 2, L0438: 2, H0689: 2, H0672: 2, H0555: 2, H0631: 2, S0206: 2, L0752: 2, L0757: 2, L0758: 2, L0485: 2, L0601: 2, H0543: 2, H0171: 1, H0265: 1, S0040: 1, H0294: 1, T0049: 1, S0134: 1, H0583: 1, H0657: 1, H0484: 1, H0661: 1, H0125: 1, S0420: 1, S0354: 1, S0358: 1, S0360: 1, S0410: 1, H0580: 1, S0132: 1, H0550: 1, H0431: 1, H0592: 1, H0587: 1, H0333: 1, H0270: 1, H0013: 1, H0599: 1, T0082: 1, H0318: 1, H0251: 1, H0309: 1, T0110: 1, H0545: 1, H0041: 1,

| 442 | HRAEB76 | 845247 | 452 | 1194 - | 1857 | Ile-19 to Lys-25. | H0620: 1, H0024: 1, H0057: 1, H0014: 1, S0051: 1, H0083: 1, S0024: 1, H0355: 1, H0266: 1, H0271: 1, H0188: 1, S0250: 1, H0328: 1, H0615: 1, L0483: 1, H0030: 1, H0031: 1, H0111: 1, H0032: 1, H0383: 1, H0674: 1, H0211: 1, L0456: 1, H0068: 1, H0135: 1, H0040: 1, H0634: 1, H0551: 1, H0412: 1, S0450: 1, H0647: 1, H0646: 1, S0144: 1, S0142: 1, S0344: 1, S0210: 1, L0761: 1, L0372: 1, L0764: 1, L0767: 1, L0768: 1, L0649: 1, L0375: 1, L0651: 1, L0784: 1, L0654: 1, L0657: 1, L0515: 1, L0658: 1, L0383: 1, L0809: 1, L0663: 1, S0006: 1, H0520: 1, H0593: 1, H0682: 1, H0684: 1, H0658: 1, H0670: 1, H0696: 1, S0027: 1, L0754: 1, L0747: 1, L0750: 1, L0591: 1, L0595: 1, L0603: 1, S0106: 1, H0668: 1, H0542: 1 and H0423: 1. | AR096: 8, AR039: 4, 56-75, 2- |

443	HPJAO13	845355	453	1517			AR053: 4, AR052: 4, AR089: 3, AR033: 3, AR060: 2, AR104: 2, AR055: 1, AR061: 1 L0756: 4, L0803: 3, L0754: 3, L0731: 3, L0766: 2, L0666: 2, L0779: 2, L0755: 2, S6024: 1, S0114: 1, H0486: 1, L0021: 1, T0082: 1, L0145: 1, L0764: 1, L0363: 1, L0794: 1, L0804: 1, S0052: 1, H0555: 1, L0758: 1, L0592: 1, S0026: 1, H0136: 1 and S0460: 1.		18
				139 - 612	1858		AR061: 2, AR089: 1, AR055: 1, AR052: 1, AR033: 1, AR060: 1, AR096: 1, AR039: 0, AR053: 0, AR104: 0 S0152: 1		19-37, 88-106, 40-56, 62-78, 130-146
444	HHENF67	845465	454	148 - 546	1859	Gly-44 to Phe-55, Pro-57 to Ser-64, Arg-83 to Gly-90, Leu-98 to Thr-105.	AR096: 43, AR053: 36, AR039: 32, AR089: 28, AR052: 26, AR104: 19. AR060: 19, AR033: 18. AR055: 7, AR061: 5 S0360: 3, H0031: 3, H0547: 3, L0015: 2, H0583: 1, L0443: 1, H0613: 1,		110-126, 11-27

| 445 | HLQDC55 | 846521 | 455 | 10 - 444 | 1860 | Met-1 to Ser-7, Gly-16 to Ile-24, Thr-28 to Asp-38, Asp-55 to Phe-64, Ser-76 to Lys-82, Leu-116 to Glu-124. | AR055: 12, AR061: 7, AR060: 6, AR053: 5, AR033: 4, AR089: 4, AR052: 3, AR096: 2, AR104: 2, AR039: 0 H0574: 1 and S0344: 1. | | | 91-110 | H0586: 1, H0013: 1, S0346: 1, H0546: 1, H0551: 1, H0059: 1, H0509: 1, L0662: 1, L0803: 1, L0774: 1, L0775: 1, L0805: 1, L0657: 1, L0659: 1, L0526: 1, L0666: 1, L0664: 1, S0380: 1 and H0543: 1. |
| 446 | IITTJW49 | 846674 | 456 | 94 - 660 | 1861 | Gly-49 to Thr-57, Gly-139 to Arg-144. | AR055: 4, AR060: 3, AR033: 3, AR096: 3, AR061: 3, AR039: 2, AR089: 2, AR052: 2, AR053: 1, AR104: 1 L0769: 3, L0803: 3, L0748: 3, L0749: 3, H0574: 2, H0046: 2, H0634: 2, S0440: 2, L0794: 2, L0805: 2, L0776: 2, L0439: 2, L0754: 2, L0747: 2, L0755: 2, L0605: 2, L0593: 2, H0686: 1, S0360: 1, L0717: 1, H0069: 1, H0575: 1, H0263: 1, H0620: 1, H0024: 1. | 7q21.3-q22.1 | 120160, 120160, 120160, 120160, 126650, 126650, 129900, 154276, 173360, 173360, 183600, 602136, 602136, 602136, 602447 | 77-94 | |

#	Clone	ID	SEQ ID	Range	SEQ ID	Features	Residues	Region
447	HSYAD28	846772	457	98 - 442	1862	Gln-33 to Gly-42, Ser-69 to Ala-77.	1, S0388: 1, H0510: 1, H0266: 1, H0644: 1, L0455: 1, H0163: 1, H0561: 1, S0438: 1, H0695: 1, L0763: 1, L0800: 1, L0804: 1, L0774: 1, L0775: 1, L0807: 1, L0659: 1, L0783: 1, L0809: 1, L0666: 1, L0665: 1, L0438: 1, H0658: 1, H0539: 1, S0152: 1, H0522: 1, L0740: 1, L0777: 1, L0603: 1, S0276: 1 and H0542: 1.	87-111
448	HLWAR77	847144	458	32 - 997	1863	Gln-87 to Pro-104, Trp-107 to Lys-119,	AR089: 2, AR096: 2, AR053: 2, AR052: 2, AR039: 2, AR060: 1, AR055: 1, AR104: 1, AR033: 1, AR061: 1 L0766: 6, L0749: 6, L0803: 2, H0395: 1, H0556: 1, H0599: 1, H0196: 1, H0545: 1, H0551: 1, H0633: 1, L0772: 1, L0800: 1, L0794: 1, L0806: 1, L0382: 1, S0152: 1, L0751: 1, L0754: 1, L0750: 1, L0608: 1, H0542: 1 and H0543: 1. AR089: 2, AR096: 2, AR039: 2, AR033: 2.	54-85, 170-198,

| 449 | HCE2W33 | 847388 | 459 | 1134 - 1820 | 1864 | His-78 to Tyr-106, Glu-115 to Asp-120, Trp-139 to Thr-146, Pro-153 to Thr-187, Pro-213 to Ser-220. | AR104: 249, AR061: 203, AR060: 179, AR033: 175, AR039: 168, AR055: 147, AR096: 122, AR089: 92, AR053: 67, AR052: 66 L0741: 18, L0766: 10, L0438: 9, H0052: 6, L0748: 6, H0622: 5, H0617: 5, L0665: 5, H0539: 5, H0542: 5, S0418: 4, H0553: 4, H0059: 4, H0494: 4, L0666: 4, H0521: 4, L0751: 4, L0750: 4, L0758: 4, L0759: 4, L0593: 4, L0595: 4, H0543: 4, H0656: 3, H0484: 3, S0420: 3, H0706: 3, H0086: 3, H0009: 3, H0050: 3, H0124: 3, H0087: 3, T0042: 3, H0509: 3, L0770: 3, L0761: 3, L0772: 3, L0771: 3, L0768: 3, L0497: 3, L0776: 3, L0659: 3, L0664: 3, L0439: 3, L0740: 3, L0591: 3, H0556: 2, | 47-77 |
| | | | | | | Thr-156 to Gln-163, Ser-168 to Lys-173, Glu-240 to Phe-246, Ser-285 to His-291, Tyr-297 to Gln-306, Glu-312 to Ser-320. | AR104: 1, AR060: 1, AR061: 1, AR053: 1, AR052: 1, AR055: 1 H0553: 4 and L0759: 2. | 121-141, 21-45, 208-224 |

S0212: 2, H0661: 2, S0442:
2, S0358: 2, S0360: 2,
H0393: 2, S0278: 2, H0333:
2, H0544: 2, H0545: 2,
H0046: 2, H0041: 2, H0292:
2, S0036: 2, H0135: 2,
H0100: 2, L0764: 2, L0533:
2, L0499: 2, L0806: 2,
L0655: 2, L0382: 2, L0809:
2, S0374: 2, H0547: 2,
H0435: 2, H0436: 2, S0028:
2, L0747: 2, L0752: 2,
L0755: 2, L0757: 2, H0136:
2, L0411: 1, H0624: 1,
H0265: 1, T0002: 1, H0222:
1, S0040: 1, H0716: 1,
H0650: 1, H0657: 1, H0341:
1, S0282: 1, H0255: 1,
H0125: 1, S0376: 1, H0676:
1, H0580: 1, H0208: 1,
S0045: 1, S0476: 1, H0645:
1, L0717: 1, H0437: 1,
H0586: 1, H0497: 1, H0632:
1, H0349: 1, H0575: 1,
H0618: 1, H0253: 1, H0318:
1, H0421: 1, H0235: 1,
H0572: 1, H0571: 1, H0012:
1, H0197: 1, H0024: 1,
H0373: 1, H0051: 1, T0010:
1, H0594: 1, H0288: 1,

| 450 | HSOAC39 | 847431 | 460 | 77 - 679 | 1865 | Ala-118 to Phe-124, Arg-178 to Lys-201. | H0328: 1, H0428: 1, L0142: 1, S0364: 1, H0040: 1, H0616: 1, H0551: 1, H0264: 1, H0268: 1, H0412: 1, T0041: 1, S0440: 1, S0144: 1, S0142: 1, S0210: 1, H0695: 1, L0369: 1, L0763: 1, L0769: 1, L5565: 1, L0667: 1, L0646: 1, L0643: 1, L0648: 1, L0649: 1, L0774: 1, L0775: 1, L0375: 1, L0651: 1, L0653: 1, L0658: 1, L0383: 1, L0663: 1, H0519: 1, H0658: 1, H0670: 1, H0648: 1, H0696: 1, H0134: 1, H0555: 1, H0576: 1, S3014: 1, S0032: 1, L0745: 1, L0749: 1, L0731: 1, H0445: 1, S0434: 1, L0581: 1, L0361: 1, H0668: 1, S0276: 1, L0469: 1, H0422: 1 and S0460: 1. | AR096: 2, AR033: 2, AR053: 2, AR060: 2, AR089: 1, AR104: 1, AR052: 1, AR055: 1, AR061: 1, AR039: 0, S0358: 36, S0374: 19, S0408: 16, S0444: 15, L0518: 12, S0442: 11, | 1-28, 151-175, 127-143 |

L0754: 11, L0740: 9,
L0747: 9, L0596: 9, S0354:
8, L0519: 8, H0494: 7,
S0406: 7, L0755: 7, S0440:
6, S0360: 5, L0745: 5,
H0556: 4, H0675: 4, S0132:
4, H0251: 4, L0806: 4,
L0809: 4, S0328: 4, L0777:
4, L0772: 3, L0646: 3,
L0662: 3, L0649: 3, L0549:
3, L0529: 3, H0696: 3,
S0434: 3, H0483: 2, S0376:
2, H0597: 2, H0231: 2,
H0046: 2, H0188: 2, H0644:
2, H0646: 2, L0764: 2,
L0768: 2, L0766: 2, L0783:
2, L0382: 2, L0779: 2,
L0600: 2, H0218: 1, S0040:
1, S0212: 1, H0663: 1,
H0664: 1, S0420: 1, S0046:
1, H0549: 1, H0592: 1,
H0586: 1, T0060: 1, T0109:
1, H0575: 1, H0036: 1,
S0049: 1, H0085: 1, H0183:
1, T0115: 1, H0015: 1,
H0687: 1, H0039: 1, L0483:
1, I10031: 1, H0032: 1,
H0165: 1, H0673: 1, H0169:
1, H0316: 1, H0413: 1,
S0448: 1, S0450: 1, L0369:

| 451 | HAJAV01 | 847551 | 461 | 357 - 707 | 1866 | Ala-28 to Thr-35. | 1, L0640: 1, L0763: 1, L0642: 1, L0363: 1, L0386: 1, L0803: 1, L0774: 1, L0775: 1, L0805: 1, L0776: 1, L0659: 1, L0517: 1, L0543: 1, L0664: 1, L0665: 1, H0144: 1, H0682: 1, H0658: 1, H0670: 1, S0380: 1, S0044: 1, H0134: 1, S0404: 1, L0743: 1, L0750: 1, L0731: 1, L0757: 1, H0445: 1, S0011: 1, H0668: 1 and S0276: 1.

 AR055: 2, AR053: 2, AR039: 2, AR033: 2, AR089: 1, AR052: 1, AR061: 1, AR060: 1, AR096: 0
 H0255: 4, H0617: 3, L0666: 3, H0690: 3, L0742: 3, S0222: 2, H0618: 2, L0665: 2, H0265: 1, H0556: 1, H0295: 1, S0212: 1, H0661: 1, S0354: 1, S0376: 1, S0360: 1, S0046: 1, H0619: 1, L0717: 1, S0278: 1, H0455: 1, H0438: 1, H0559: 1, S0049: 1, H0052: 1, H0024: 1, S0051: 1, S6028: 1, H0428: 1, H0424: | 86-109, 40-56 |

| 452 | HWGQC67 | 847568 | 462 | 121 - 522 | 1867 | Lys-53 to Asn-58. | AR053: 1, AR089: 1, AR033: 1, AR061: 1, AR060: 0, AR096: 0, AR052: 0, AR055: 0, AR039: 0, AR104: 0 L0805: 3, L0659: 3, S0406: 3, L0779: 3, S0376: 2, H0013: 2, H0553: 2, L0761: 2, L0773: 2, L0662: 2, L0794: 2, L0803: 2, L0665: 2, H0539: 2, S0404: 2, L0748: 2, L0754: 2, L0731: 2, H0265: 1, S0114: 1, H0583: 1, H0650: 1, S0212: 1, S0442: 1, S0354: 1, S0408: 1, H0351: 1, H0592: 1, H0575: 1, S0474: 1, H0581: 1, H0271: 1, H0687: 1, H0622: 1, S0382: 1, S0448: 1, H0529: 1, L0640: 1, L0763: 1, L0764: | 1, H0673: 1, H0124: 1, H0087: 1, H0551: 1, H0561: 1, S0210: 1, H0529: 1, L0761: 1, L0644: 1, L0803: 1, L0774: 1, L0775: 1, L0805: 1, L0656: 1, H0519: 1, H0659: 1, H0672: 1, L0777: 1, L0698: 1 and H0677: 1. | 93-114, 17-35, 70-86 |

453	HFIJC17	847634	463	394 - 726	1868	Ser-35 to Arg-45.	1, L0771: 1, L0804: 1, L0776: 1, L0655: 1, L0788: 1, L0666: 1, H0666: 1, H0555: 1, L0751: 1, L0750: 1 and L0759: 1.	AR052: 7, AR096: 7, AR089: 5, AR053: 4, AR060: 4, AR033: 3, AR104: 2, AR061: 2, AR055: 2, AR039: 0 H0438: 1, L0764: 1, L0626: 1, H0445: 1 and S0194: 1.	46-62, 18-34
454	HBXCD74	847677	464	709 - 1014	1869	Pro-3 to Glu-8.		AR096: 3, AR089: 2, AR053: 1, AR104: 1, AR055: 1, AR060: 1, AR052: 1, AR061: 1, AR039: 0, AR033: 0 L0439: 11, L0751: 5, S0222: 3, L0769: 3, L0766: 3, H0617: 2, S0038: 2, L0770: 2, L0764: 2, L0794: 2, L0438: 2, L0747: 2, L0752: 2, H0445: 2, S6024: 1, S0001: 1, H0351: 1, H0586: 1, S0010: 1, H0373: 1, S0051: 1, T0010: 1, S6028: 1, H0264: 1, S0150: 1, L0768: 1, S0052: 1,	64-80

455	HPICD14	847876	465	1284 - 544	1870		
						Pro-44 to Trp-49, Met-58 to His-65, Pro-68 to Lys-76, Ser-153 to Asp-158, Ser-235 to Gln-246.	H0522: 1, L0741: 1, L0753: 1, L0758: 1 and H0422: 1. AR033: 5, AR096: 5, AR052: 5, AR055: 5, AR089: 4, AR053: 4, AR061: 4, AR060: 4, AR039: 2, AR104: 2 L0748: 8, L0766: 7, L0771: 5, S0422: 3, H0529: 3, H0519: 3, L0749: 3, L0756: 3, H0641: 2, L0659: 2, S0374: 2, L0438: 2, H0547: 2, L0751: 2, L0750: 2, L0758: 2, H0484: 1, S0420: 1, S0442: 1, S0358: 1, S0410: 1, S0007: 1, H0632: 1, L0483: 1, H0606: 1, H0268: 1, H0494: 1, S0150: 1, L0763: 1, L0637: 1, L0764: 1, L0768: 1, L0774: 1, L0653: 1, L0809: 1, L0666: 1, H0144: 1, H0520: 1, H0658: 1, S0328: 1, H0539: 1, S0406: 1, S0027: 1, L0744: 1, L0754: 1, L0777: 1, S0434: 1, L0592: 1, L0608: 1, L0593: 1, H0136: 1, H0543: 1 and H0422: 1.	210-235, 95-117, 184-204, 161-177, 123-139

456	HBGNJ21	848184	21 - 521	1871	Glu-151 to Gln-157.	AR096: 1, AR039: 1, AR033: 1, AR060: 1, AR053: 1, AR052: 1, AR089: 1, AR055: 1, AR061: 0, AR104: 0 H0617: 3, S0282: 1, S0045: 1, H0135: 1 and S0028: 1.	88-114, 113-137, 17-42, 47-68
457	HBGNW78	848214	299 - 640	1872	Gln-10 to Tyr-16, Asn-20 to Arg-25.	AR033: 1, AR104: 1, AR089: 1, AR096: 1, AR053: 1, AR060: 0, AR061: 0, AR055: 0, AR052: 0, AR039: 0 H0617: 5, S0278: 1 and S0028: 1.	49-69
458	HSDZN36	848395	652 - 1053	1873		AR055: 16, AR033: 14, AR060: 13, AR061: 10, AR104: 10, AR052: 8, AR089: 7, AR053: 6, AR039: 5, AR096: 5 S0414: 26, L0777: 8, L0758: 4, S0422: 3, L0731: 3, H0170: 2, S6016: 2, H0009: 2, L0471: 2, H0051: 2, S6028: 2, H0266: 2, L0653: 2, L0809: 2, L0666: 2, L0663: 2, H0689: 2, L0745: 2, L0750: 2, S0412: 2, S0358: 1, S0360: 1,	114-132, 65-82, 39-55, 14-30

| 459 | HFPCS09 | 848480 | 469 | 9 - 401 | 1874 | | S0408: 1, H0728: 1, L0717: 1, H0351: 1, S0222: 1, H0455: 1, H0587: 1, H0574: 1, H0052: 1, H0046: 1, H0615: 1, H0428: 1, H0553: 1, S0036: 1, H0090: 1, H0591: 1, H0623: 1, S0440: 1, L0637: 1, L0771: 1, L0794: 1, L0766: 1, L0388: 1, L0803: 1, L0774: 1, L0805: 1, L0607: 1, L0659: 1, L0636: 1, L0647: 1, L0790: 1, L0664: 1, L0665: 1, H0519: 1, H0658: 1, S0378: 1, H0518: 1, S0152: 1, H0521: 1, S3012: 1, L0779: 1, L0752: 1, L0759: 1, S0434: 1 and H0653: 1. AR039: 74, AR096: 66, AR053: 44, AR055: 38, AR052: 38, AR033: 34, AR104: 33, AR089: 27, AR060: 21, AR061: 19 | 32-48, 98-117, 8-24 |
| 460 | HAIBB95 | 848610 | 470 | 301 - 795 | 1875 | Glu-9 to Leu-18, Leu-22 to Pro-27. | AR039: 16, AR055: 12, AR104: 8, AR053: 8, AR033: 8, AR060: 7, AR052: 7, AR096: 6, AR089: 6, AR061: 6 | 88-107 |

461	HHEFI08	848769	471	109 - 417	1876	Gly-82 to Tyr-87.	H0038: 3, L0770: 3, L0777: 3, L0794: 2, L0766: 2, L0803: 2, L0779: 2, L0758: 2, S0132: 1, H0393: 1, H0549: 1, H0586: 1, H0559: 1, H0004: 1, H0581: 1, H0545: 1, H0457: 1, H0266: 1, H0030: 1, H0316: 1, H0551: 1, H0056: 1, L0659: 1, L0517: 1, L0792: 1, H0691: 1, H0555: 1 and L0599: 1.	AR096: 1, AR089: 1, AR060: 1, AR061: 1, AR033: 0, AR052: 0, AR055: 0, AR039: 0, AR053: 0, AR104: 0 H0561: 1, L0748: 1 and H0542: 1.	61-79
462	HE8ON163	848773	472	10 - 432	1877	Ala-57 to Trp-62.		AR089: 1, AR033: 0, AR055: 0, AR053: 0, AR096: 0, AR052: 0, AR039: 0, AR060: 0, AR061: 0, AR104: 0 H0013: 1 and H0561: 1.	110-128
463	HAJAG88	848785	473	158 - 631	1878	Arg-26 to Cys-31.		AR096: 6, AR089: 4, AR039: 3, AR053: 3, AR033: 3, AR052: 3, AR060: 2, AR104: 2,	2-24, 116-139, 32-49, 93-111, 62-78

464	IIAJCL92	849547	474	33 – 2522	1879		
					Lys-136 to Glu-143, Lys-184 to Ser-189, Ser-195 to Asn-205, Asn-232 to Thr-240, Arg-276 to Phe-285, Glu-406 to Glu-414, Thr-476 to Tyr-482, Tyr-496 to Ala-501, Pro-588 to Glu-593, Pro-612 to Leu-618, Gly-623 to Gln-630, Thr-670 to Ser-681, Lys-701 to Glu-715, Lys-759 to Glu-769, Met-773 to Asn-797, Ser-809 to Asp-823.	AR053: 2, AR096: 2, AR089: 2, AR052: 2, AR033: 2, AR055: 2, AR060: 1, AR104: 1, AR061: 1, AR039: 1 L0770: 9, S0152: 6, L0744: 6, L0758: 6, L0665: 5, S0404: 5, S0356: 4, L0794: 4, L0803: 4, L0755: 4, L0595: 4, H0591: 3, H0547: 3, L0777: 3, S0408: 2, H0619: 2, H0581: 2, L0471: 2, H0188: 2, L0771: 2, L0659: 2, L0666: 2, L0663: 2, L0664: 2, H0436: 2, L0747: 2, L0731: 2, L0362: 2, H0170: 1, T0002: 1, H0657: 1, H0661: 1, H0638: 1, S0442: 1, S0358: 1, S0007: 1, L0717: 1, H0497: 1, T0039: 1, T0109:	AR055: 2, AR061: 1 L0527: 2, H0657: 1, H0341: 1, S0222: 1, I10438: 1, T0048: 1, S0049: 1, S0250: 1, S0036: 1, H0087: 1, H0561: 1, L0369: 1, L0388: 1, L0518: 1, H0520: 1, H0519: 1, H0435: 1, L0366: 1 and L0697: 1.
							739-756, 89-105, 249-265, 166-182, 511-527

465	HHAMA15	849576	475	62 - 646	1880		
						1, H0013: 1, H0069: 1, H0575: 1, H0004: 1, H0318: 1, H0050: 1, H0014: 1, S0388: 1, H0687: 1, S0250: 1, S0003: 1, H0090: 1, H0616: 1, L0060: 1, H0551: 1, H0268: 1, H0412: 1, H0413: 1, H0561: 1, S0352: 1, S0372: 1, S0150: 1, L0640: 1, L0804: 1, L0650: 1, L0383: 1, L0791: 1, H0144: 1, H0519: 1, H0435: 1, H0648: 1, H0672: 1, H0521: 1, S0406: 1, H0478: 1, S0037: 1, S0027: 1, L0439: 1, L0751: 1, L0754: 1, L0750: 1, L0752: 1, L0759: 1, L0361: 1, H0136: 1 and S0196: 1. AR096: 2, AR104: 1, AR055: 1, AR033: 1, AR061: 1, AR060: 1, AR089: 1, AR039: 0, AR052: 0, AR053: 0, S0358: 6, L0803: 5, H0510: 2, S0438: 2, S0422: 2, L0769: 2, L0805: 2, L0527: 2, L0789: 2, L0748: 2, L0747: 2, L0750: 2, L0615: 1, L0460: 1, H0484:	109-133, 175-191, 30-46

| 466 | HPJDE45 | 849610 | 476 | 550 - 1353 | 1881 | Ala-5 to Asn-28, Pro-47 to His-52, Tyr-83 to Arg-90. | AR096: 3, AR089: 3, AR053: 3, AR060: 2, AR033: 2, AR104: 2, AR055: 2, AR039: 1, AR052: 1, AR061: 1 H0436: 3, L0605: 3, H0551: 2, L0662: 2, S0028: 2, L0748: 2, L0754: 2, L0759: 2, S0134: 1, S0001: 1, S0358: 1, S0360: 1, H0550: 1, H0404: 1, H0156: 1, H0041: 1, H0050: 1, H0031: 1, H0591: 1, S0386: 1, L0521: 1, L0803: 1, H0547: 1, H0682: 1, H0658: 1, S0152: 1, S0027: 1, L0745: 1, H0445: 1, S0196: 1 and H0423: 1. [cont.] 1, S0444: 1, S0222: 1, H0486: 1, T0048: 1, H0041: 1, H0024: 1, H0646: 1, L0800: 1, L0662: 1, L0629: 1, L0518: 1, L0809: 1, L0791: 1, S0374: 1, H0627: 1, L0756: 1, L0755: 1, L0731: 1 and L0759: 1. | 245-261 |
| 467 | HPMJG77 | 849645 | 477 | 179 - 1405 | 1882 | Met-1 to Ser-8, Ser-31 to Asp-40, Asn-44 to Val-51, | AR033: 7, AR060: 7, AR052: 7, AR055: 6, AR096: 5, AR039: 5, | 298-314, 69-85 |

Asp-87 to Ser-95, Pro-115 to Ser-125, Phe-131 to Phe-138, Leu-166 to Gly-171, His-197 to Gln-206, Leu-217 to Lys-224, Thr-359 to Glu-370, Met-373 to Tyr-378, Lys-403 to Asn-409.	AR053: 5, AR039: 4, AR061: 3, AR104: 2 L0803: 15, L0766: 5, S0208: 4, L0758: 4, S0222: 3, S0003: 3, H0529: 3, L0770: 3, L0666: 3, L0756: 3, H0170: 2, H0171: 2, S0356: 2, H0637: 2, S0045: 2, L0763: 2, L0662: 2, L0794: 2, L0774: 2, L0805: 2, L0809: 2, H0436: 2, L0747: 2, L0750: 2, L0755: 2, H0624: 1, S0418: 1, H0741: 1, S0132: 1, H0331: 1, H0013: 1, H0318: 1, S0049: 1, H0052: 1, H0596: 1, H0457: 1, H0051: 1, H0510: 1, S6028: 1, S0214: 1, H0428: 1, H0553: 1, H0644: 1, H0032: 1, H0090: 1, H0591: 1, H0616: 1, H0413: 1, H0494: 1, L0475: 1, S0438: 1, S0344: 1, L0796: 1, L0637: 1, L0646: 1, L0800: 1, L0648: 1, L0804: 1, L0806: 1, L0776: 1, L0655: 1, L0807: 1, L0527: 1, L0659: 1, L0790: 1, L0791: 1, L0664: 1, H0725: 1, S0148: 1, H0520:

| 468 | HBCCG79 | 850225 | 478 | 184-723 | 1883 | Pro-3 to Thr-9, Leu-39 to Val-44, Ile-121 to Tyr-128, Ser-149 to Val-156. | AR052: 20, AR096: 20, AR089: 15, AR053: 14, AR060: 13, AR033: 10, AR055: 9, AR039: 8, AR104: 5, AR061: 4 S0126: 6, L0766: 5, S0046: 3, S0152: 3, L0748: 3, S0354: 2, S0376: 2, S0045: 2, H0013: 2, H0050: 2, H0634: 2, H0547: 2, H0521: 2, S0028: 2, L0747: 2, L0731: 2, L0596: 2, S0040: 1, H0657: 1, H0381: 1, S0356: 1, S0360: 1, H0393: 1, L0717: 1, H0370: 1, H0599: 1, H0318: 1, H0581: 1, H0123: 1, L0471: 1, H0024: 1, H0014: 1, H0266: 1, S0003: 1, S0022: 1, H0031: 1, H0591: 1, H0038: 1, H0551: 1, T0042: 1, | 1, H0519: 1, H0593: 1, S0330: 1, H0521: 1, H0522: 1, S0406: 1, S0392: 1, S3014: 1, S0028: 1, S0206: 1, L0740: 1, L0754: 1, L0745: 1, L0779: 1, L0777: 1, L0752: 1, L0731: 1, S0436: 1, L0596: 1, S0194: 1 and H0423: 1. | 130-146 |

469		HFIHQ53	850238	479	19 - 651	1884	Thr-43 to Leu-48, Ala-74 to Ser-85, Ser-122 to Asn-130, Gln-133 to Gly-139.	H0561: 1, S0144: 1, H0529: 1, L0646: 1, L0794: 1, L0774: 1, L0776: 1, L0659: 1, L0666: 1, L0664: 1, H0435: 1, S0378: 1, H0555: 1, S0027: 1, S0206: 1, L0750: 1, L0759: 1, H0653: 1 and H0543: 1.		95-111
470		HUVFU38	850252	480	367 - 960	1885	Ala-47 to Asp-53, Glu-105 to Arg-112, Tyr-150 to Leu-157.	AR033: 1, AR096: 1, AR052: 1, AR055: 1, AR060: 1, AR089: 1, AR104: 1, AR039: 1, AR061: 1, AR053: 1 H0656: 2, S0420: 2, L0364: 2, H0650: 1, H0657: 1, S0356: 1, S0360: 1, H0486: 1, H0598: 1, H0591: 1, H0529: 1, L0764: 1, H0519: 1, H0521: 1, H0522: 1, S0044: 1, H0445: 1, S0194: 1 and H0677: 1.	AR055: 8, AR061: 5, AR060: 5, AR096: 4, AR089: 4, AR052: 4, AR033: 4, AR053: 3, AR104: 3, AR039: 3 H0623: 2 and S0278: 1.	159-179
471		HUDBK83	850353	481	3238 - 1439	1886	Gly-38 to Asp-47, Thr-208 to Phe-221,		AR089: 4, AR033: 4, AR052: 4, AR096: 4,	234-251, 18-34,

157-173, 443-459

Glu-273 to Tyr-279, Thr-286 to Arg-291, Ala-341 to Asn-346, Ser-365 to Leu-370, Asp-519 to Thr-526, Pro-563 to Gly-568.

AR053: 3, AR060: 3, AR061: 3, AR055: 3, AR039: 2, AR104: 2 H0253: 10, H0617: 8, H0559: 7, H0265: 6, H0618: 5, H0551: 5, S0434: 5, H0052: 4, H0620: 4, L0794: 4, H0556: 3, H0135: 3, H0087: 3, L0659: 3, L0666: 3, L0663: 3, L0438: 3, H0522: 3, L0749: 3, H0171: 2, H0657: 2, H0341: 2, H0484: 2, H0255: 2, S0356: 2, S0360: 2, S0046: 2, H0550: 2, H0251: 2, H0051: 2, H0188: 2, H0424: 2, H0031: 2, H0040: 2, H0494: 2, S0344: 2, L0769: 2, L0662: 2, L0774: 2, L0783: 2, L0809: 2, H0696: 2, L0439: 2, L0751: 2, L0779: 2, L0731: 2, L0759: 2, L0605: 2, L0361: 2, L0601: 2, H0624: 1, H0159: 1, S6024: 1, H0295: 1, H0656: 1, S0420: 1, S0442: 1, S0408: 1, H0637: 1, L0717: 1, H0351: 1, S0222: 1, H0441: 1, H0370: 1, H0592: 1, H0586: 1, H0497: 1,

H0643: 1, H0257: 1, H0013: 1, H0635: 1, H0156: 1, H0042: 1, H0706: 1, H0318: 1, H0581: 1, H0194: 1, H0327: 1, H0046: 1, H0009: 1, H0178: 1, H0565: 1, H0012: 1, H0023: 1, H0201: 1, S0051: 1, H0083: 1, S6028: 1, H0266: 1, H0271: 1, H0428: 1, H0604: 1, H0417: 1, H0181: 1, H0708: 1, H0163: 1, H0038: 1, H0634: 1, H0063: 1, H0264: 1, H0412: 1, S0038: 1, L0351: 1, H0359: 1, S0150: 1, H0646: 1, H0538: 1, S0002: 1, S0426: 1, L0640: 1, L0772: 1, L0372: 1, L0641: 1, L0643: 1, L0764: 1, L0767: 1, L0768: 1, L0766: 1, L0375: 1, L0378: 1, L0806: 1, L0652: 1, L0656: 1, L0636: 1, L0790: 1, L0664: 1, H0144: 1, S0374: 1, H0520: 1, H0547: 1, H0519: 1, H0593: 1, H0682: 1, H0651: 1, S0328: 1, H0539: 1, S0380: 1, S0332: 1, S0406: 1, S3014: 1, S0027: 1, L0754: 1,

472	HDPSB01	850581	482	38 - 391	1887		

AR052: 5, AR039: 4, AR053: 4, AR033: 3, AR096: 3, AR060: 3, AR055: 3, AR089: 2, AR104: 2, AR061: 1 H0521: 7, L0519: 4, L0598: 3, L0794: 3, L0779: 3, L0755: 3, H0542: 3, H0637: 2, H0251: 2, L0662: 2, L0803: 2, H0436: 2, L0743: 2, L0749: 2, L0752: 2, L0599: 2, H0543: 2, H0661: 1, H0305: 1, S0358: 1, S0360: 1, S0278: 1, H0486: 1, H0427: 1, T0082: 1, H0309: 1, H0014: 1, H0271: 1, H0561: 1, S0144: 1, S0344: 1, L0631: 1, L0800: 1, L0804: 1, L0651: 1, L0806: 1, L0653: 1, L0776: 1, L0527: 1, L0659: 1, L0666: 1, H0144: 1, H0672: 1, H0696: 1, H0478: 1, L0750: 1, L0756: 1, L0758: 1, S0031: 1, H0444:

L0750: 1, L0755: 1, L0757: 1, L0758: 1, S0031: 1, S0436: 1, L0593: 1, H0667: 1, H0217: 1, H0423: 1, H0422: 1 and S0042: 1.

49-76, 1-17, 30-46, 94-110

473	HKAPB61	850629	483	45 - 572	1888	Pro-16 to Thr-25, Thr-47 to Leu-54, Tyr-62 to Gln-77, Pro-112 to Tyr-131.	1, H0445: 1, H0595: 1, L0592: 1, S0192: 1 and S0242: 1. AR033: 12, AR104: 12, AR060: 9, AR089: 8, AR055: 7, AR061: 7, AR053: 6, AR052: 6, AR039: 4, AR096: 4 H0624: 2, H0014: 2, H0622: 2, H0038: 2, H0616: 2, H0661: 1, T0082: 1, H0494: 1, H0538: 1, H0144: 1, S0126: 1, L0743: 1, L0754: 1 and L0758: 1.	131-147
474	HMEGF05	850930	484	427 - 831	1889	Leu-32 to Val-37.	AR055: 6, AR096: 6, AR052: 5, AR060: 4, AR089: 4, AR033: 3, AR039: 3, AR061: 3, AR053: 2, AR104: 1 H0457: 4, S0045: 1, H0586: 1, H0581: 1, H0266: 1, H0628: 1, L0659: 1 and H0519: 1.	66-90, 1-19, 36-54, 97-113
475	HPIVF17	850963	485	230 - 691	1890	Glu-8 to Thr-13, Glu-18 to Pro-25, Ser-48 to Val-55.	AR052: 10, AR053: 10, AR055: 9, AR033: 6, AR061: 5, AR060: 5, AR039: 5, AR089: 5, AR104: 4, AR096: 4 S0420: 1, H0424: 1,	93-111

| 476 | HDLBF57 | 851303 | 486 | 19 - 561 | 1891 | Glu-40 to Gln-48. | S0144: 1 and L0595: 1.
AR033: 8, AR053: 7, AR089: 6, AR052: 6, AR055: 5, AR039: 5, AR060: 4, AR096: 4, AR061: 3, AR104: 3 L0157: 4, H0038: 4, H0013: 3, L0766: 3, S0354: 2, H0545: 2, L0794: 2, L0783: 2, L0665: 2, H0144: 2, L0756: 2, L0777: 2, L0593: 2, L0595: 2, H0665: 2, H0656: 1, H0484: 1, H0254: 1, H0125: 1, S0356: 1, S6026: 1, H0485: 1, H0618: 1, H0318: 1, S0388: 1, H0266: 1, H0039: 1, H0673: 1, H0412: 1, L0770: 1, L0769: 1, L0761: 1, L0803: 1, L0653: 1, L0382: 1, L0792: 1, S0052: 1, H0690: 1, H0658: 1, H0539: 1, S3014: 1, S0028: 1, L0779: 1, L0758: 1 and L0759: 1. | 133-165, 1-22, 57-75, 92-108 |
| 477 | HE8QT62 | 851311 | 487 | 1129 - 1530 | 1892 | Ser-31 to Gln-44, Ser-91 to Gln-96. | AR052: 11, AR055: 9, AR061: 7, AR053: 6, AR033: 6, AR096: 6, AR060: 6, AR089: 5, | 56-74 |

							AR104: 3, AR039: 2 H0013: 3, H0090: 2, S0002: 2, H0144: 2, H0161: 1, S0134: 1, S0418: 1, S0360: 1, H0580: 1, S0045: 1, S0222: 1, H0244: 1, H0575: 1, H0039: 1, H0032: 1, H0616: 1, H0063: 1, S0142: 1, H0529: 1, L0372: 1, L0803: 1, L0790: 1, L0791: 1, H0521: 1, L0593: 1, S0242: 1, H0543: 1 and H0423: 1.	
478	IIE9FI33	851342	488	45 - 416	1893	Arg-65 to His-70.	AR055: 7, AR052: 4, AR053: 4, AR060: 4, AR061: 4, AR033: 3, AR089: 3, AR096: 3, AR104: 3, AR039: 2 L0749: 2, H0144: 1 and L0748: 1.	3-27, 93-118, 32-49, 73-89
479	HOUBJ40	851343	489	48 - 506	1894	Lys-42 to Gly-48, Asp-71 to Pro-76, Tyr-84 to Met-91.	AR055: 9, AR052: 7, AR060: 6, AR053: 6, AR033: 5, AR061: 5, AR096: 5, AR089: 5, AR039: 3, AR104: 3 L0666: 2, L0779: 2, S0040: 1, S0442: 1, H0634: 1, L0643: 1, L0804: 1, L0775: 1, L0809: 1, H0144: 1.	101-117

480	HHEVC06	851355	490	566 - 1060	1895	Pro-58 to His-69, Glu-132 to Asn-138.	1, L0777: 1 and L0752: 1. AR096: 9, AR089: 7, AR052: 6, AR053: 6, AR039: 4, AR060: 4, AR104: 4, AR033: 2, AR055: 2, AR061: 1 L0526: 1, H0144: 1, L0748: 1 and H0543: 1.	7-23, 106-122, 139-155
481	IIE8FS36	851478	491	118 - 456	1896		AR039: 7, AR055: 7, AR096: 6, AR033: 6, AR052: 5, AR060: 5, AR089: 5, AR053: 5, AR061: 3, AR104: 3 L0766: 2, L0759: 2, H0580: 1, H0611: 1, H0013: 1, S0474: 1, H0057: 1, H0268: 1, H0413: 1, L0655: 1, L0748: 1, L0756: 1, H0595: 1 and L0594: 1.	40-68, 1-24, 76-92
482	HE2SS47	851581	492	610 - 942	1897		AR089: 1, AR053: 1, AR060: 0, AR061: 0, AR055: 0, AR096: 0, AR039: 0, AR033: 0, AR052: 0 S0001: 2, H0624: 1, H0255: 1, S0428: 1, S0152: 1, S0028: 1, S0031: 1 and S0260: 1.	71-108, 68-84
483	HTELD06	851722	493	243 -	1898	Tyr-25 to Val-30.	AR089: 12, AR033: 12,	156-172

| 484 | HDPJH06 | 851787 | 494 | 551 - 916 | 1899 | Thr-2 to Val-8, Leu-43 to Glu-48, Lys-53 to Gln-61. | AR052: 11, AR060: 10, AR096: 8, AR053: 7, AR104: 5, AR039: 5, AR061: 4, AR055: 3 H0616: 2, L0665: 2, L0779: 2, H0624: 1, I0156: 1, L0766: 1, L0803: 1, L0517: 1, L0367: 1, L0792: 1, L0663: 1, L0748: 1, L0754: 1 and L0758: 1. | 860 | 93-109 |

AR096: 5, AR052: 5, AR039: 5, AR053: 4, AR089: 3, AR033: 3, AR060: 3, AR104: 3, AR055: 2, AR061: 1 S0003: 4, L0756: 4, H0521: 3, H0171: 2, H0014: 2, S0214: 2, L0748: 2, L0747: 2, L0755: 2, H0581: 1, H0263: 1, L0471: 1, H0266: 1, H0328: 1, H0615: 1, H0553: 1, H0032: 1, H0591: 1, H0038: 1, H0100: 1, H0494: 1, S0422: 1, S0002: 1, L0773: 1, L0766: 1, L0375: 1, L0776: 1, L0527: 1, L0659: 1, H0520: 1, H0478: 1, L0750: 1, L0779: 1, L0759: 1, S0031: 1, L0591: 1 and S0026: 1.

| 485 | HDTKS69 | 851859 | 495 | 35 - 349 | 1900 | | AR033: 10, AR061: 8, AR060: 6, AR089: 4, AR055: 1, AR104: 1, AR096: 1, AR052: 0, AR053: 0, AR039: 0 L0439: 3, H0052: 2, S6028: 2, L0792: 2, H0486: 1, S0346: 1, L0471: 1, S0016: 1, L0776: 1, L0659: 1, L0438: 1 and H0539: 1. | 2-30, 70-89, 41-58 |
| 486 | HE6CH89 | 852568 | 496 | 132 - 527 | 1901 | Lys-78 to Glu-88, Ser-93 to Glu-102, Ser-109 to Cys-117, Arg-126 to Gln-132. | AR052: 4, AR060: 2, AR033: 2, AR089: 1, AR053: 1, AR096: 1, AR055: 1, AR104: 1, AR061: 1, AR039: 0 L0748: 7, L0659: 3, L0747: 3, S0212: 2, S0010: 2, H0132: 2, L0764: 2, L0744: 2, L0752: 2, L0759: 2, S0424: 2, H0170: 1, S0116: 1, S0358: 1, S6016: 1, H0587: 1, H0575: 1, H0421: 1, H0041: 1, H0050: 1, L0471: 1, H0375: 1, H0615: 1, H0039: 1, H0674: 1, H0100: 1, H0625: 1, H0654: 1, H0529: 1, L0364: 1, L0636: 1, L0526: 1, L0783: 1, L0532: 1, L0663: 1, L0665: 1, H0724: 1, | 57-79, 30-49 |

| 487 | HDPGS20 | 852676 | 497 | 18 - 833 | 1902 | Pro-36 to Gln-42, Cys-73 to Ser-86. | H0658: 1, H0660: 1, H0521: 1, H0522: 1, S0406: 1 and L0740: 1. AR089: 1, AR033: 1, AR053: 1, AR055: 1, AR060: 1, AR096: 1, AR061: 0, AR039: 0, AR104: 0, AR052: 0 H0521: 7, S0022: 6, L0770: 6, L0769: 6, L0758: 5, S0051: 4, L0747: 4, L0756: 4, H0638: 3, H0124: 3, L0794: 3, L0805: 3, S0278: 2, S0222: 2, H0052: 2, H0327: 2, H0100: 2, L0789: 2, L0438: 2, L0439: 2, L0751: 2, L0777: 2, L0591: 2, S0282: 1, S0356: 1, L0717: 1, H0441: 1, H0587: 1, L0163: 1, H0051: 1, S0048: 1, H0594: 1, H0328: 1, L0455: 1, S0036: 1, S0038: 1, S0344: 1, L0761: 1, L0775: 1, L0375: 1, L0776: 1, L0659: 1, L0809: 1, L0647: 1, H0522: 1, L0750: 1, L0753: 1, H0445: 1 and L0366: 1. | 210-237, 41-73, 84-110, 238-257 |
| 488 | HWBBZ12 | 852760 | 498 | 3509 - | 1903 | Ile-37 to Phe-45, | AR055: 6, AR060: 4, | 79-97 |

489	HDPBI36	852845	499	59 - 607	1904		2913	
					Lys-57 to Lys-65, Gln-72 to Glu-81, Lys-88 to Lys-93, Tyr-147 to Glu-156.	AR053: 2, AR039: 2, AR052: 1, AR060: 1, AR089: 1, AR096: 1, AR061: 1, AR055: 0, AR033: 0, AR104: 0 L0731: 14, L0756: 9, H0521: 6, L0758: 6, L0759: 6, H0556: 5, L0659: 5,	Leu-109 to Glu-118, Ser-169 to Ser-178.	AR096: 4, AR052: 3, AR061: 2, AR053: 2, AR104: 1, AR033: 1, AR089: 0, AR039: 0 L0766: 9, L0794: 6, L0439: 6, L0731: 5, L0779: 4, L0717: 3, H0622: 2, S0422: 2, L0740: 2, L0756: 2, L0595: 2, H0402: 1, S0420: 1, S0444: 1, H0580: 1, H0208: 1, S0278: 1, H0261: 1, S0222: 1, H0497: 1, H0574: 1, L0471: 1, H0641: 1, L0646: 1, L0764: 1, L0773: 1, L0803: 1, L0804: 1, L0526: 1, L0783: 1, L0791: 1, L0664: 1, L0665: 1, H0520: 1, H0521: 1, H0522: 1, H0696: 1, H0436: 1, L0777: 1, L0755: 1, L0759: 1, H0595: 1, L0604: 1 and H0422: 1.
						120-148, 100-121, 158-175		

L0783: 5, H0659: 4, S0360: 3, H0413: 3, L0598: 3, L0770: 3, L0791: 3, L0665: 3, S0126: 3, S0378: 3, L0755: 3, H0624: 2, H0171: 2, S0358: 2, H0580: 2, H0645: 2, T0060: 2, H0156: 2, H0042: 2, H0263: 2, H0046: 2, S0003: 2, H0591: 2, H0616: 2, H0641: 2, H0646: 2, S0344: 2, L0369: 2, L0662: 2, L0776: 2, L0663: 2, S0027: 2, L0779: 2, H0667: 2, S0192: 2, H0543: 2, H0422: 2, H0170: 1, H0713: 1, S0114: 1, S0134: 1, H0583: 1, H0341: 1, S0212: 1, H0661: 1, S0418: 1, S0444: 1, S0408: 1, S0468: 1, S0045: 1, S0476: 1, H0639: 1, L0717: 1, H0411: 1, H0441: 1, H0370: 1, H0331: 1, H0574: 1, H0075: 1, H0581: 1, H0052: 1, H0123: 1, S0050: 1, H0014: 1, T0010: 1, H0266: 1, S0250: 1, H0644: 1, L0142: 1, H0628: 1, H0617: 1, H0032: 1, H0383: 1, H0169: 1, S0036: 1,

| 490 | HMAEP64 | 852960 | 500 | 167 - 952 | 1905 | Glu-167 to Met-172, Pro-208 to Arg-218, Arg-243 to Ser 253, Ser-255 to Gly-262. | H0551: 1, T0067: 1, H0380: 1, H0264: 1, H0412: 1, H0625: 1, S0142: 1, L0762: 1, L0763: 1, L0641: 1, L0773: 1, L0768: 1, L0766: 1, L0803: 1, L0650: 1, L0523: 1, L0806: 1, L0653: 1, L0526: 1, L0519: 1, L0647: 1, L0789: 1, L0790: 1, L0666: 1, L0664: 1, S0374: 1, L0438: 1, H0519: 1, H0689: 1, H0690: 1, H0670: 1, H0666: 1, L0602: 1, S0152: 1, H0696: 1, S0146: 1, H0555: 1, H0576: 1, S0037: 1, S3014: 1, L0744: 1, L0439: 1, L0740: 1, L0754: 1, L0750: 1, L0786: 1, L0752: 1, L0757: 1, S0436: 1, L0591: 1, S0026: 1, H0136: 1, S0242: 1, S0276: 1, S0196: 1, H0423: 1 and H0293: 1. | AR061: 9, AR089: 5, AR060: 5, AR033: 5, AR055: 5, AR052: 4, AR096: 4, AR039: 3, AR053: 2, AR104: 2 S0278: 3, H0641: 3, S0142: 3, H0521: 3, H0271: | 48-74, 218-241, 91-110, 173-191, 146-162 |

491	HTYSK68	852980	501	38 - 454	1906	Lys-2 to Glu-21, Lys-34 to Ser-42, Ile-118 to Pro-123.	97-113 2, L0770: 2, L0794: 2, L0748: 2, L0777: 2, L0599: 2, H0583: 1, H0650: 1, H0657: 1, H0656: 1, H0663: 1, H0638: 1, S0358: 1, S0376: 1, H0545: 1, S0388: 1, H0594: 1, S0144: 1, S0344: 1, L0763: 1, L0646: 1, L0648: 1, L0767: 1, L0766: 1, L0650: 1, L0775: 1, L0787: 1, L0664: 1, S0216: 1, H0576: 1, H0727: 1, L0756: 1, L0757: 1, S0260: 1 and S0436: 1.
492	IIDAAD50	852987	502	73 -	1907	Ala-25 to Gly-32.	154-171, AR033: 2, AR104: 2, AR055: 2, AR039: 2, AR060: 1, AR052: 1, AR061: 1, AR089: 1, AR053: 1, AR096: 0, L0663: 2, L0439: 2, L0731: 2, H0663: 1, H0497: 1, H0486: 1, H0124: 1, S0036: 1, H0116: 1, H0623: 1, L0633: 1, L0783: 1, L0438: 1, H0547: 1, H0670: 1, S0404: 1, L0748: 1, L0747: 1, L0485: 1, H0667: 1 and H0422: 1. AR052: 6, AR096: 5,

493	HNTNC03	853174	503	28 – 408	1908			93-121, 56-73, 36-52
					Trp-22 to Arg-30, Lys-120 to Glu-127.	1335	6-22	

AR089: 5, AR033: 5,
AR053: 4, AR039: 3,
AR060: 3, AR061: 2,
AR104: 2, AR055: 2
L0439: 9, L0766: 7,
H0251: 5, L0740: 5, L0803:
4, L0794: 3, L0665: 3,
H0445: 3, H0156: 2, L0764:
2, L0655: 2, L0518: 2,
L0809: 2, L0754: 2, L0747:
2, L0756: 2, L0777: 2,
L0759: 2, L0362: 2, S0424:
2, H0171: 1, H0638: 1,
S0360: 1, H0580: 1, S0046:
1, H0351: 1, S6014: 1,
H0586: 1, H0497: 1, H0574:
1, L0021: 1, S0010: 1,
H0596: 1, S0036: 1, H0090:
1, H0591: 1, H0509: 1,
L0662: 1, L0768: 1, L0650:
1, L0775: 1, L0806: 1,
L0659: 1, H0144: 1, H0702:
1, S0374: 1, H0435: 1,
H0648: 1, H0672: 1, H0521:
1, L0752: 1, L0758: 1,
S0260: 1, H0667: 1, H0423:
1 and L0465: 1.

AR096: 8, AR039: 6,
AR089: 6, AR104: 5,
AR060: 4, AR033: 3,

| 494 | HCFNG65 | 853186 | 504 | 42 - 908 | 1909 | AR053: 3, AR052: 3, AR055: 2, AR061: 1 L0748: 4, S0358: 2, L0754: 2, L0756: 2, L0758: 2, H0222: 1, S0212: 1, H0580: 1, H0351: 1, T0039: 1, H0590: 1, H0318: 1, T0071: 1, H0015: 1, S6028: 1, S0036: 1, T0069: 1, H0130: 1, H0646: 1, L0646: 1, L0773: 1, L0662: 1, L0766: 1, L0803: 1, L0666: 1, L0665: 1, H0520: 1, H0547: 1, S0136: 1, H0521: 1, H0696: 1, S0028: 1, L0743: 1, L0745: 1, L0750: 1, L0777: 1, L0759: 1, S0434: 1 and L0596: 1. AR039: 2, AR096: 1, AR089: 1, AR104: 1, AR033: 1, AR052: 0, AR061: 0, AR060: 0, AR053: 0, AR055: 0 L0748: 12, L0766: 11. L0439: 8, L0803: 7, S0136: 6, L0758: 4, L0438: 3, L0751: 3, L0749: 3, H0624: 2, H0318: 2, H0014: 2, H0553: 2, S0422: 2, L0794: 2, L0663: 2, H0144: 2, | 56-73, 225-241 |

495	HLMMI85	853213	505	787 - 311	1910	Asp-22 to Gln-30, Lys-80 to Gly-91.	AR055: 9, AR052: 6, AR096: 6, AR060: 6, AR061: 6, AR033: 5, AR089: 4, AR053: 4, AR104: 3, AR039: 3 H0483: 1, H0255: 1, H0600: 1, H0310: 1, L0766: 1, H0436: 1 and H0543: 1. / H0555: 2, S3014: 2, L0744: 2, L0747: 2, L0485: 2, H0423: 2, H0171: 1, H0657: 1, S0358: 1, H0637: 1, S0050: 1, H0028: 1, H0412: 1, L0351: 1, L0475: 1, H0633: 1, L0662: 1, L0655: 1, L0659: 1, L0518: 1, L0793: 1, L0666: 1, L0664: 1, S0328: 1, S0380: 1, S0350: 1, H0521: 1, H0704: 1, L0743: 1, L0759: 1 and H0668: 1.	138-155, 119-135
496	HBGMZ39	853966	506	87 - 590	1911	Arg-17 to Phe-28, Asp-35 to Asp-43, Gly-53 to Ala-60, Gln-127 to Trp-134, Val-156 to Lys-165.	AR039: 21, AR033: 18, AR089: 16, AR052: 14, AR055: 14, AR053: 13, AR096: 11, AR060: 10, AR104: 10, AR061: 10 H0617: 9, L0763: 6, L0754: 2, H0483: 1, L0789: 1 and L0743: 1.	90-107

497	HIIEIA70	854202	507	298-831	1912			100-120
						Asp-9 to Ser-18, Ala-27 to Asn-34, Val-63 to Leu-69, Thr-91 to Thr-103, Lys-143 to Asn-148, Thr-160 to Ile-173.	AR039: 39, AR053: 29, AR096: 27, AR052: 25, AR033: 20, AR104: 16, AR089: 10, AR060: 9, AR055: 8, AR061: 5 L0754: 6, S0422: 5, H0547: 5, L0471: 4, L0750: 4, L0362: 4, S0360: 3, H0318: 3, H0581: 3, S0003: 3, H0646: 3, L0740: 3, L0758: 3, H0542: 3, H0265: 2, H0556: 2, H0341: 2, H0497: 2, S6028: 2, H0090: 2, H0591: 2, H0494: 2, L0770: 2, L0655: 2, L0663: 2, S0428: 2, H0144: 2, H0659: 2, H0658: 2, H0672: 2, H0521: 2, L0439: 2, L0777: 2, L0752: 2, L0755: 2, L0731: 2, L0599: 2, L0608: 2, H0422: 2, H0686: 1, S0040: 1, S6024: 1, H0661: 1, H0663: 1, H0638: 1, S0420: 1, S0354: 1, S0358: 1, S0408: 1, S0476: 1, L0717: 1, H0261: 1, I10549: 1, H0455: 1, H0586: 1, L0586: 1, H0635: 1, S0010: 1, H0569: 1, H0620: 1, H0350: 1, H0201: 1,	

498	HNTNA78	854267	508	179 - 538	1913		51-69, 96-112
					Asn-83 to Lys-88, Ala-113 to Glu-119.	S0051: 1, H0179: 1, H027 1: 1, S0214: 1, H0644: 1, H0628: 1, H0616: 1, H0264: 1, S0352: 1, S0440: 1, H0641: 1, S0344: 1, H0529: 1, L0520: 1, L0763: 1, L0769: 1, L0667: 1, L0772: 1, L0373: 1, L0646: 1, L0521: 1, L0768: 1, L0649: 1, L0775: 1, L0806: 1, L0652: 1, L0807: 1, L0657: 1, L0659: 1, L0647: 1, L0792: 1, S0053: 1, H0702: 1, S0122: 1, H0648: 1, H0539: 1, S0152: 1, H0522: 1, H0696: 1, S0406: 1, H0626: 1, L0751: 1, L0747: 1, L0756: 1, L0779: 1, L0759: 1, S0031: 1, S0260: 1, H0445: 1, L0592: 1, L0601: 1, H0423: 1, H0506: 1 and H0352: 1. AR039: 5, AR096: 3, AR033: 3, AR053: 3, AR060: 3, AR089: 3, AR104: 3, AR055: 2, AR052: 2, AR061: 1 H0351: 11, L0439: 5, I10090: 3, H0616: 3, L0803: 3, L0777: 3, S0222: 2,	

| 499 | HOVAN91 | 854277 | 509 | 288 - 605 | 1914 | Pro-57 to Trp-62. | H0013: 2, H0318: 2, H0032: 2, L0794: 2, L0766: 2, L0806: 2, L0659: 2, L0565: 2, H0436: 2, L0740: 2, H0170: 1, H0341: 1, S0001: 1, H0671: 1, H0663: 1, H0675: 1, H0550: 1, H0486: 1, H0590: 1, H0196: 1, H0596: 1, N0006: 1, H0569: 1, L0471: 1, S0003: 1, H0428: 1, H0031: 1, H0211: 1, H0591: 1, H0551: 1, H0560: 1, H0652: 1, L0638: 1, L0646: 1, L0662: 1, L0804: 1, L0650: 1, L0776: 1, L0655: 1, L0606: 1, L0636: 1, L0809: 1, L0792: 1, L0666: 1, S0148: 1, L0438: 1, H0520: 1, H0435: 1, H0659: 1, S0406: 1, S0028: 1, L0750: 1, L0779: 1, L0752: 1, L0755: 1, L0731: 1, L0758: 1, S0031: 1, S0260: 1, S0242: 1 and H0422: 1. | AR039: 7, AR096: 5, AR052: 4, AR104: 4, AR033: 3, AR053: 3, AR089: 3, AR055: 3, AR060: 3, AR061: 2 | 73-89, 26-42 |

500	HLYER32	854463	510	774 - 442	1915	L0438: 6, L0439: 6, L0776: 5, H0428: 4, L0805: 4, H0687: 3, L0770: 3, H0651: 3, L0789: 2, L0756: 2, L0758: 2, L0361: 2, S0212: 1, S0001: 1, H0351: 1, H0052: 1, H0327: 1, H0178: 1, L0769: 1, L0767: 1, L0794: 1, L0807: 1, L0759: 1 and L0608: 1. AR096: 4, AR052: 3, AR033: 2, AR104: 2, AR061: 2, AR053: 2, AR089: 1, AR060: 1, AR055: 1, AR039: 0 L0805: 3, L0776: 3, L0766: 2, L0748: 2, L0747: 2, L0750: 2, L0485: 2, S0001: 1, L0534: 1, S0360: 1, H0580: 1, S6014: 1, H0036: 1, S0051: 1, H0188: 1, H0379: 1, S0440: 1, L0761: 1, L0800: 1, L0651: 1, L0659: 1, L0517: 1, L0787: 1, H0593: 1, S0260: 1 and H0445: 1.			69-85	
501	HFPEL47	854659	511	98 - 604	1916	AR055: 3, AR060: 3, AR033: 2, AR061: 2, AR089: 2, AR052: 2,	Xp22.1-p21.3	Leu-46 to Trp-52, Glu-90 to Arg-96, Leu-151 to Asp-159.	106-135	300018, 300075, 300077,

502	HTPIJ41	854779	512	551 - 1507	1917	Pro-87 to Tyr-99, Pro-102 to Tyr-117, Arg-144 to Trp-150, Phe-164 to Ile-180, Trp-293 to Tyr-307.	AR052: 16, AR089: 15, AR053: 13, AR039: 12, AR033: 10, AR060: 9, AR061: 4, AR096: 1, AR104: 1, AR055: 0 L0777: 4, H0635: 3, L0775: 3, L0731: 3, L0758: 3, S0276: 3, H0170: 2, L0470: 2, H0013: 2, H0575: 2, H0046: 2, H0622: 2, H0634: 2, L0766: 2, L0783: 2, L0809: 2, L0664: 2,		
							AR053: 2, AR096: 1, AR104: 1, AR039: 1, S0222: 1	300200, 301200, 301220, 302350, 306000, 306000, 306100, 307030, 307800, 309470, 309510, 309585, 311770, 312040, 312170, 312612, 312700, 313400	245-262, 207-223

503	HNTNC49	855013	513	40 - 1020	1918			236-252
					Arg-80 to Gly-86, Gly-103 to Leu-110.	S0328: 2, S0152: 2, S3014: 2, L0439: 2, L0740: 2, L0747: 2, L0779: 2, L0599: 2, H0638: 1, H0411: 1, H0550: 1, H0069: 1, H0427: 1, L0021: 1, S0010: 1, L0105: 1, H0309: 1, H0572: 1, H0083: 1, S0003: 1, S0214: 1, H0169: 1, H0674: 1, H0561: 1, S0464: 1, H0647: 1, S0210: 1, L0369: 1, L0769: 1, L0764: 1, L0648: 1, L0662: 1, L0768: 1, L0803: 1, L0806: 1, L0790: 1, H0520: 1, S0126: 1, S0122: 1, H0521: 1, H0522: 1, S0044: 1, S0406: 1, H0436: 1, S3012: 1, L0754: 1, L0745: 1, L0746: 1, L0750: 1, L0780: 1, L0759: 1, L0601: 1, S0192: 1 and S0424: 1.	AR039: 26, AR053: 18, AR052: 18, AR089: 17, AR096: 16, AR104: 16, AR033: 16, AR060: 13, AR055: 9, AR061: 5 L0769: 10, L0659: 10, L0766: 7, L0748: 7, L0747: 7, L0750: 7, L0665: 6,	

L0743: 6, L0779: 6, L0754: 5, L0758: 5, L0761: 4,
L0771: 4, L0662: 4, L0731: 4, H0620: 3, T0006: 3,
H0617: 3, L0520: 3, L0774: 3, L0776: 3, L0809: 3,
L0439: 3, L0777: 3, L0595: 3, H0657: 2, H0580: 2,
H0156: 2, H0618: 2, H0253: 2, H0081: 2, L0471: 2,
H0012: 2, S0366: 2, S0038: 2, H0130: 2, L0770: 2,
L0768: 2, L0794: 2, L0806: 2, L0805: 2, L0657: 2,
L0666: 2, L0663: 2, H0672: 2, H0539: 2, H0696: 2,
L0740: 2, L0752: 2, L0759: 2, S0031: 2, L0599: 2,
H0543: 2, H0295: 1, S0116: 1, H0341: 1, H0402: 1,
H0305: 1, H0589: 1, H0638: 1, S0418: 1, S0356: 1,
S0358: 1, S0360: 1, H0208: 1, H0619: 1, H0441: 1,
H0455: 1, H0587: 1, H0333: 1, L0623: 1, H0486: 1,
L0021: 1, H0599: 1, H0108: 1, H0042: 1, S0010: 1,
H0581: 1, H0546: 1, H0545: 1, H0046: 1, H0050: 1,

504	HLTCO94	855239	514	238-612	1919	Ser.2 to Tyr-8.	H0057: 1, H0266: 1, H0188: 1, H0687: 1, H0039: 1, H0622: 1, H0424: 1, H0181: 1, H0383: 1, H0166: 1, H0673: 1, H0135: 1, H0090: 1, H0038: 1, H0087: 1, T0067: 1, H0623: 1, H0100: 1, S0112: 1, T0041: 1, H0494: 1, H0560: 1, L0763: 1, L0638: 1, L0373: 1, L0646: 1, L0800: 1, L0642: 1, L0643: 1, L0644: 1, L0764: 1, L0649: 1, L0386: 1, L0804: 1, L0650: 1, L0651: 1, L0540: 1, L0542: 1, L0783: 1, L0545: 1, L0367: 1, L0789: 1, L0792: 1, L0664: 1, L0438: 1, H0520: 1, H0547: 1, H0689: 1, H0670: 1, H0651: 1, S0380: 1, H0436: 1, L0744: 1, L0749: 1, L0756: 1, L0780: 1, L0755: 1, H0445: 1, H0595: 1, L0596: 1, L0591: 1 and L0608: 1.	AR052: 18, AR053: 14, AR033: 7, AR096: 7, AR089: 6, AR060: 5, AR104: 5, AR055: 5, AR039: 3, AR061: 3	81-100, 13-29

H0694: 121, L0749: 14,
L0439: 10, S0192: 9,
H0656: 7, L0750: 7, L0731:
6, S0152: 5, L0740: 5,
L0794: 4, L0747: 4, H0052:
3, S0003: 3, L0770: 3,
L0769: 3, L0764: 3, L0803:
3, L0776: 3, L0438: 3,
S0026: 3, H0341: 2, S0376:
2, S0408: 2, L0471: 2,
H0014: 2, H0510: 2, L0598:
2, L0763: 2, L0765: 2,
L0662: 2, L0388: 2, L0774:
2, L0805: 2, L0809: 2,
L0789: 2, H0670: 2, L0602:
2, S0028: 2, L0751: 2,
L0779: 2, L0752: 2, L0757:
2, H0542: 2, H0423: 2,
H0422: 2, H0171: 1, H0686:
1, S0114: 1, T0049: 1,
H0657: 1, H0661: 1, H0402:
1, S0444: 1, S0360: 1,
S0222: 1, H0441: 1, H0442:
1, H0497: 1, H0574: 1,
L0021: 1, H0575: 1, H0581:
1, T0115: 1, H0569: 1,
S0051: 1, H0083: 1, H0375:
1, S0214: 1, H0328: 1,
H0039: 1, H0644: 1, H0090:
1, H0616: 1, H0623: 1,

| 505 | HBIMT77 | 855274 | 515 | 336 - 743 | 1920 | Lys-8 to Gly-15, Arg-29 to Ala-34, Asp-65 to Pro-70. | H0059: 1, H0100: 1, S0142: 1, S0002: 1, L0369: 1, L0637: 1, L0646: 1, L0771: 1, L0363: 1, L0766: 1, L0649: 1, L0381: 1, L0804: 1, L0654: 1, L0606: 1, L0659: 1, L0783: 1, L0544: 1, L0663: 1, S0374: 1, L0352: 1, H0520: 1, H0547: 1, H0683: 1, H0660: 1, S0328: 1, H0539: 1, H0522: 1, L0742: 1, L0748: 1, L0756: 1, L0777: 1, L0758: 1, L0759: 1, H0445: 1, S0434: 1, S0436: 1, L0599: 1, L0601: 1, H0653: 1 and H0543: 1. | 42-62 |
| | | | | | | | AR053: 4, AR033: 2, AR089: 2, AR055: 1, AR096: 1, AR104: 1, AR061: 1, AR060: 1, AR039: 0, AR052: 0, L0758: 6, L0794: 4, L0764: 3, L0809: 3, S0360: 2, H0253: 2, H0196: 2, H0052: 2, H0150: 2, H0024: 2, H0424: 2, H0606: 2, L0770: 2, L0803: 2, H0547: 2, H0593: 2, L0747: 2, L0759: 2, L0485: 2, S6024: | |

| 506 | HTLIV70 | 855314 | 516 | 94 - 1047 | 1921 | Asp-36 to Ser-42. | 1, H0657: 1, H0341: 1, H0402: 1, S0046: 1, H0549: 1, H0608: 1, H0587: 1, H0618: 1, H0546: 1, H0123: 1, H0081: 1, H0099: 1, H0271: 1, H0328: 1, H0124: 1, H0040: 1, H0116: 1, L0475: 1, L0761: 1, L0646: 1, L0662: 1, L0363: 1, L0806: 1, L0635: 1, L0790: 1, S0330: 1, H0521: 1, L0611: 1, L0439: 1, L0751: 1 and L0749: 1. | AR039: 18, AR033: 17, AR089: 15, AR052: 14, AR055: 13, AR053: 13, AR061: 9, AR096: 9, AR060: 8, AR104: 6 H0618: 2, S0031: 2, H0545: 1, S0050: 1, H0031: 1, H0124: 1, H0130: 1, H0646: 1, H0521: 1, S0432: 1, L0601: 1 and L0600: 1. | 73-90, 152-168, 51-67, 270-286, 207-223 |
| 507 | HFADF33 | 855433 | 517 | 532 - 197 | 1922 | Met-1 to His-23, Asp-64 to Ser-79. | | AR033: 28, AR052: 22, AR053: 20, AR055: 20, AR089: 19, AR039: 17, AR060: 10, AR096: 10, AR061: 9, AR104: 5 L0439: 29, L0766: 11, | 91-109 |

508	HETJQ73	855453	518	538 - 1269	1923				
						Met-1 to Pro-7, Leu-55 to Tyr-60, Glu-67 to Leu-77, Arg-110 to Phe-115, Glu-218 to Lys-223.	AR061: 56, AR055: 8, AR089: 6, AR060: 6, AR096: 6, AR052: 5, AR053: 4, AR033: 4, AR104: 3, AR039: 2 H0046: 9, L0766: 8, L0731: 6, L0779: 5, L0800: 4, S0003: 3, S0408: 2, H0494: 2, S0422: 2, L0803: 2, L0804: 2, L0805: 2, L0776: 2, L0655: 2, L0748: 2, L0754: 2, S0412: 2, H0306: 1, S0418: 1, S0444: 1, S0222: 1, H0611: 1, L0163: 1, H0266: 1, S0214: 1, L0483: 1, L0055: 1, L0455: 1, H0038: 1, H0063: 1, H0413: 1, S0440: 1, L0770: 1, L0771: 1, L0521: 1.	L0742: 8, L0769: 6, L0351: 5, S0222: 4, H0052: 4, T0010: 4, S6024: 3, L0768: 3, L0779: 3, L0759: 3, H0455: 2, L0794: 2, L0776: 2, L0438: 2, S0001: 1, L0534: 1, S0049: 1, S0051: 1, S0038: 1, L0763: 1, L0770: 1, L0805: 1, L0745: 1, L0777: 1, L0753: 1 and L0758: 1.	163-202, 134-159, 223-241, 113-131, 199-215, 156-172

| 509 | HAGGV44 | 855714 | 519 | 298 - 606 | 1924 | AR055: 10, AR033: 6, AR060: 5, AR089: 5, AR061: 4, AR052: 4, AR053: 4, AR096: 3, AR039: 3, AR104: 3 L0777: 14, L0769: 3, L0803: 3, L0805: 3, L0742: 3, L0439: 3, S0346: 2, L0766: 2, H0658: 2, L0749: 2, L0752: 2, L0407: 1, L0415: 1, S0116: 1, H0306: 1, H0305: 1, H0351: 1, H0441: 1, H0392: 1, H0486: 1, L0586: 1, H0427: 1, S0010: 1, T0048: 1, H0251: 1, L0471: 1, H0687: 1, H0428: 1, H0124: 1, H0413: 1, H0517: 1, L0369: 1, L0638: 1, L0775: 1, L0651: 1, L0806: 1, L0653: 1, L0659: 1, L0790: 1, L0666: 1, L0663: 1, S0126: 1, H0690: 1, H0684: 1, H0658: 1, H0710: 1, H0521: 1, H0478: 1, S0206: 1, L0740: 1, L0751: 1, L0750: 1, L0777: 1, L0758: 1, L0605: 1, L0595: 1, S0192: 1, H0543: 1, H0423: 1 and S0424: 1. | 37-55, 60-76, 79-95 |

510	HTTDM15	856108	520	38 - 778	1925	1, L0776: 1, L0518: 1, L0789: 1, L0792: 1, L0438: 1, L0352: 1, S0380: 1, S0188: 1, S0146: 1, H0576: 1, L0740: 1, L0747: 1, L0756: 1, L0779: 1, L0755: 1, L0759: 1, S0260: 1, L0601: 1, S0192: 1 and H0423: 1.	AR052: 12, AR055: 11, AR053: 10, AR039: 9, AR096: 9, AR033: 8, AR060: 8, AR061: 7, AR104: 5, AR039: 5 L0748: 4, H0441: 2, H0333: 2, H0670: 2, H0660: 2, L0439: 2, L0747: 2, L0601: 2, S0218: 1, H0650: 1, H0656: 1, H0254: 1, H0255: 1, H0013: 1, H0327: 1, H0266: 1, H0070: 1, H0040: 1, T0042: 1, L0809: 1, L0790: 1, L0792: 1, H0689: 1, H0435: 1, H0134: 1, L0741: 1, L0759: 1 and S0042: 1.	133-149, 17-33, 109-125
511	HADCY76	856212	521	208 - 567	1926	Glu-40 to Phe-45.	AR104: 1, AR089: 1, AR053: 1, AR096: 1, AR060: 0, AR039: 0,	48-65

512	HDPXW75	856251	522	21 - 548	1927	Ser-4 to Ser-11.	AR061: 0, AR033: 0, AR052: 0 L0749: 3, H0346: 1, H0370: 1, H0427: 1 and L0439: 1.		52-69, 160-176
513	HMCDC50	856301	523	103 - 525	1928	Gly-5 to Asp-11.	AR039: 3, AR096: 2, AR104: 2, AR089: 2, AR052: 1, AR061: 1, AR053: 0, AR033: 0, AR060: 0, AR055: 0 S0278: 1, H0521: 1 and L0740: 1.	AR060: 167, AR055: 164, AR061: 136, AR033: 116, AR039: 97, AR104: 97, AR053: 89, AR089: 83, AR052: 73, AR096: 70 S0142: 4, H0581: 1, S0250: 1 and H0521: 1.	122-138
514	HMADZ55	856326	524	33 - 743	1929	His-11 to Tyr-17.	AR033: 3, AR061: 3, AR053: 3, AR060: 2, AR089: 2, AR104: 2, AR096: 2, AR055: 1, AR039: 0, AR052: 0 S0144: 5, S0278: 3, S0142: 2, S0426: 2, L0665: 2, L0748: 2, H0556: 1, H0583: 1, H0644: 1, H0617: 1, H0606: 1, H0090: 1, S0002:		127-158, 157-185, 106-125, 49-65, 205-221

							1, L0770: 1, L0767: 1, L0375: 1, L0659: 1, L0791: 1, H0689: 1, H0518: 1 and L0758: 1.	83-101
515	HTXNB76	856497	525	617 - 315	1930	Met-1 to Asn-13.	AR096: 2, AR039: 2, AR089: 1, AR053: 1, AR033: 1, AR061: 1, AR060: 1, AR055: 1, AR104: 0, AR052: 0 L0766: 6, L0748: 5, H0556: 3, H0090: 2, L0655: 2, H0580: 1, H0581: 1, L0040: 1, L0055: 1, H0591: 1, H0396: 1, H0641: 1, L0761: 1, L0772: 1, L0794: 1, L0387: 1, L0606: 1, L0666: 1, L0664: 1, H0659: 1, S0378: 1, L0779: 1, H0445: 1 and H0542: 1.	
516	HLWDD49	856506	526	127 - 465	1931	Trp-9 to Gly-24, Gly-27 to Gln-34.	AR096: 1, AR033: 1, AR089: 1, AR060: 1, AR061: 0, AR052: 0, AR039: 0, AR104: 0, AR053: 0, AR055: 0 H0254: 1, H0553: 1, H0429: 1, H0538: 1 and H0520: 1.	87-105
517	HLQGX48	856704	527	921 - 1436	1932	Gly-59 to Pro-68, Gln-87 to Lys-96,	AR039: 30, AR055: 28, AR033: 25, AR053: 19,	21-51, 146-164,

518	H2CBH17	856745	528	335 - 2263	1933					
						Gly-120 to Cys-125.	AR060: 19, AR089: 16, AR052: 15, AR104: 14, AR061: 12, AR096: 12 L0766: 15, L0805: 5, H0632: 2, L0789: 2, L0740: 2, H0395: 1, H0656: 1, H0341: 1, H0574: 1, H0647: 1, S0422: 1, L0761: 1, L0794: 1, L0776: 1, L0515: 1, S0216: 1, H0144: 1, H0682: 1, H0660: 1 and L0755: 1.			127-143, 69-85
						Leu-27 to Ser-35, Pro-64 to Gly-70, Glu-86 to Thr-92, Ser-100 to Glu-105, Arg-135 to Arg-140, Thr-366 to Cys-378, Asp-395 to His-400, Glu-436 to Arg-442, Glu-478 to Asn-486, Ser-530 to Asp-538, Glu-614 to Gly-625, Ile-637 to Leu-643.	AR096: 7, AR033: 7, AR052: 7, AR060: 6, AR053: 5, AR089: 5, AR055: 4, AR104: 4, AR039: 3, AR061: 2 L0438: 9, L0439: 4, H0170: 3, H0615: 3, S0378: 3, L0750: 3, H0553: 2, H0090: 2, H0529: 2, L0764: 2, L0803: 2, L0804: 2, L0775: 2, L0652: 2, L0659: 2, L0809: 2, H0144: 2, S0028: 2, L0748: 2, L0745: 2, L0779: 2, L0777: 2, L0759: 2, L0591: 2, H0624: 1, S0356: 1, S0376: 1, S0360: 1, L0717: 1, S0278: 1, H0369: 1, H0431: 1,			321-338, 581-598, 459-475, 285-301, 213-229, 177-193

| 519 | HLQEF25 | 856748 | 529 | 70 | 432 | 1934 | Pro-17 to Gly-31. | H0586: 1, H0574: 1, H0013: 1, H0427: 1, H0122: 1, H0052: 1, T0110: 1, L0118: 1, H0050: 1, H0024: 1, H0051: 1, H0594: 1, S0003: 1, H0031: 1, H0644: 1, H0591: 1, H0038: 1, H0551: 1, H0264: 1, L0435: 1, T0042: 1, H0131: 1, S0142: 1, S0210: 1, L0637: 1, L0772: 1, L0800: 1, L0773: 1, L0794: 1, L0766: 1, L0375: 1, L0657: 1, L0665: 1, H0547: 1, S0126: 1, H0684: 1, H0660: 1, H0672: 1, H0518: 1, S0136: 1, H0436: 1, L0747: 1, L0756: 1, L0752: 1, H0445: 1, L0595: 1, H0667: 1, H0543: 1, L0697: 1 and S0424: 1. AR055: 6, AR061: 6, AR060: 3, AR053: 3, AR096: 3, AR033: 3, AR089: 2, AR052: 2, AR039: 2, AR104: 1 L0604: 8, L0485: 6, L0748: 5, L0777: 3, S0438: 2, L0809: 2, H0722: 1, H0574: 1, H0041: 1, H0708: 1, S0366: 1, L0747: 1, | 99-121 |

520	HTOHA37	856923	530	12 - 881	1935	L0749: 1, L0780: 1 and L0759: 1. AR096: 3, AR089: 3, AR055: 3, AR060: 2, AR033: 2, AR053: 2, AR052: 1, AR061: 1, AR104: 1, AR039: 0 H0585: 8, H0265: 3, H0141: 2, S0360: 2, H0251: 2, H0031: 2, H0551: 2, H0529: 2, L0519: 2, L0545: 2, L0664: 2, H0668: 2, S0040: 1, T0049: 1, H0656: 1, H0255: 1, S0376: 1, S0132: 1, H0546: 1, H0375: 1, S0314: 1, H0428: 1, H0039: 1, H0553: 1, L0055: 1, H0264: 1, H0561: 1, H0509: 1, L0643: 1, L0803: 1, L0651: 1, L0378: 1, L0776: 1, L0659: 1, L0790: 1, L0666: 1, H0519: 1, S0126: 1, H0521: 1, H0576: 1, L0777: 1, L0755: 1, L0731: 1, L0757: 1, L0759: 1, H0665: 1, S0194: 1 and S0458: 1.	41-57, 101-117
521	HLIIAW26	856982	531	299 - 613	1936	AR055: 12, AR061: 7, AR052: 7, AR060: 7,	34-51

522	HKAAZ46	857100	532	281 - 679	1937	Asn-26 to Asn-31, Ser-67 to Ala-74, Ile-105 to Lys-110.	AR089: 6, AR033: 5, AR096: 5, AR053: 5, AR039: 3, AR104: 3, H0144: 3, H0208: 1, H0369: 1 and H0024: 1.	79-104, 109-127, 47-63
523	HAQAF12	857311	533	45 - 653	1938	Ala-5 to Lys-36, Ser-41 to Leu-80, Gly-98 to Gly-112, Gly-198 to Asp-203.	AR039: 23, AR053: 14, AR096: 11, AR033: 11, AR104: 10, AR052: 9, AR089: 9, AR055: 7, AR060: 7, AR061: 4, H0494: 1	127-150, 160-176
524	HTNEX35	857404	534	263 - 793	1939	Gln-56 to Pro-65, Pro-70 to Asn-76, Gly-85 to Trp-94, Arg-103 to Ser-108.	AR055: 7, AR052: 6, AR053: 5, AR033: 4, AR061: 4, AR096: 4, AR060: 4, AR089: 4, AR039: 3, AR104: 1, L0439: 4, L0748: 3, L0731: 3, H0265: 2, H0015: 2, H0083: 2, H0040: 2, L0764: 2, L0766: 2, L0543: 2, S0027: 2, L0758: 2, L0759: 2, L0604: 2, H0685: 1, H0656: 1, S0360: 1,	134-152

525	HE8TE64	857478	535	151 - 831	1940	Gln-14 to Ala-21, Leu-45 to Arg-51, Arg-54 to Asp-61, Ser-88 to Ile-95, Leu-111 to Gln-117.	S0045: 1, L0717: 1, S0222: 1, H0156: 1, H0575: 1, H0046: 1, H0014: 1, H0266: 1, H0687: 1, H0166: 1, H0674: 1, H0529: 1, L0769: 1, L0645: 1, L0363: 1, L0768: 1, L0806: 1, L0557: 1, L0776: 1, L0789: 1, L0665: 1, L0438: 1, H0682: 1, H0648: 1, L0779: 1, L0752: 1, H0444: 1, L0608: 1, H0668: 1 and I10423: 1. AR061: 4, AR033: 3, AR055: 3, AR053: 3, AR060: 2, AR104: 2, AR089: 2, AR039: 1, AR052: 1, AR096: 1 H0013: 1 and S0250: 1.	130-162, 171-187
526	HL3AC38	857623	536	87 - 872	1941		AR055: 13, AR033: 11, AR053: 10, AR052: 9, AR089: 8, AR060: 8, AR061: 6, AR096: 4, AR104: 4, AR039: 3 S0418: 2, H0046: 2, I10542: 2, H0341: 1, H0421: 1, H0052: 1, L0471: 1, S0022: 1, H0038: 1, H0433: 1, H0560: 1, H0132: 1, S0374: 1, S3014: 1, L0759:	70-87, 119-135

527	HMUAO31	857664	537	11 - 955	1942	Gln-68 to Gln-74.	1 and S0276: 1.	204-225, 142-158, 82-98, 6-22

AR039: 11, AR033: 9, AR053: 8, AR089: 7, AR052: 7, AR055: 7, AR096: 6, AR060: 5, AR061: 5, AR104: 5

H0494: 12, L0770: 12, H0657: 11, H0659: 9, L0774: 8, L0776: 8, H0648: 8, L0755: 8, S0410: 6, L0769: 6, L0766: 6, L0750: 6, H0638: 5, S0408: 5, H0559: 5, S0440: 5, L0775: 5, H0520: 5, H0556: 4, H0341: 4, S0418: 4, S0358: 4, S0376: 4, S0360: 4, H0617: 4, L0665: 4, L0748: 4, L0777: 4, L0752: 4, L0759: 4, S0434: 4, S0420: 3, H0253: 3, H0424: 3, H0616: 3, H0560: 3, L0374: 3, H0144: 3, L0439: 3, L0740: 3, L0747: 3, L0731: 3, L0758: 3, L0596: 3, L0601: 3, S0026: 3, S0194: 3, H0170: 2, H0265: 2, H0685: 2, H0656: 2, L0415: 2, S0444: 2, S0278: 2, H0550: 2, H0257: 2, T0109: 2, H0156: 2, H0618: 2,

H0545: 2, L0471: 2, H0620: 2, H0373: 2, H0083: 2, H0290: 2, H0031: 2, H0040: 2, H0551: 2, H0412: 2, L0065: 2, S0438: 2, H0538: 2, L0763: 2, L0772: 2, L0646: 2, L0644: 2, L0764: 2, L0662: 2, L0518: 2, L0783: 2, L0663: 2, S0374: 2, H0547: 2, H0435: 2, H0658: 2, H0670: 2, S0328: 2, L0753: 2, H0445: 2, H0665: 2, H0542: 2, H0423: 2, H0506: 2, H0624: 1, S0114: 1, S0134: 1, H0583: 1, H0650: 1, S0116: 1, H0255: 1, H0663: 1, H0662: 1, L0481: 1, H0125: 1, S0442: 1, S0354: 1, H0675: 1, H0580: 1, S0046: 1, H0619: 1, H0351: 1, H0437: 1, H0369: 1, H0431: 1, H0370: 1, H0600: 1, H0586: 1, H0587: 1, H0331: 1, H0486: 1, H0069: 1, H0575: 1, S0346: 1, H0705: 1, T0048: 1, S0182: 1, H0318: 1, H0581: 1, S0049: 1, H0052: 1, H0086: 1, H0563: 1, H0123: 1, H0081: 1,

| 528 | HHAWD33 3 | 857697 | 538 | 407 - 1132 | 1943 | Met-1 to Ser-9, Ser-11 to Val-21, Gln-64 to Pro-69, | H0014: 1, H0510: 1, H0375: 1, H0188: 1, S0022: 1, H0428: 1, H0708: 1, S0366: 1, H0135: 1, H0634: 1, H0063: 1, H0087: 1, H0413: 1, H0623: 1, H0059: 1, S0386: 1, H0100: 1, T0042: 1, L0475: 1, H0386: 1, H0646: 1, L0598: 1, H0529: 1, L0369: 1, L0520: 1, L0762: 1, L0371: 1, L0638: 1, L0373: 1, L0773: 1, L0521: 1, L0363: 1, L0805: 1, L0655: 1, L0517: 1, L0540: 1, L0542: 1, L0526: 1, L0809: 1, L0545: 1, L0647: 1, L0789: 1, L0791: 1, H0691: 1, H0519: 1, H0689: 1, H0690: 1, H0660: 1, H0672: 1, H0651: 1, S0330: 1, H0539: 1, S0378: 1, S0380: 1, H0521: 1, S0406: 1, L0749: 1, L0780: 1, L0757: 1, L0608: 1, L0594: 1, H0668: 1, H0653: 1, H0667: 1, S0242: 1, S0276: 1 and H0422: 1. AR033: 4, AR052: 3, AR039: 3, AR053: 3, AR104: 3, AR089: 3, | 110-135, 69-85, 47-63 |

529	HITZMB08	857723	539	90 - 404	1944	Thr-88 to Arg-96, Asp-106 to Gly-116.	AR096: 3, AR060: 2, AR055: 2, AR061: 2 L0757: 3, S0410: 2, H0052: 2, L0794: 2, L0766: 2, L0806: 2, L0809: 2, L0750: 2, L0593: 2, S0418: 1, L0534: 1, S0442: 1, S0408: 1, H0619: 1, H0036: 1, H0318: 1, H0009: 1, H0050: 1, H0051: 1, H0267: 1, L0455: 1, H0316: 1, H0135: 1, H0616: 1, H0412: 1, H0494: 1, S0150: 1, L0763: 1, L0768: 1, L0803: 1, L0804: 1, L0776: 1, L0542: 1, L0789: 1, H0547: 1, S0152: 1, L0740: 1, L0754: 1, L0599: 1, L0594: 1, S0196: 1, H0423: 1 and H0506: 1.	43-59
530	HJBCE86	857743	540	80 - 1324	1945	Tyr-29 to Thr-34, Pro-87 to Lys-97.	AR060: 2, AR089: 2, AR053: 1, AR061: 1, AR033: 1, AR096: 0, AR104: 0, AR055: 0, AR039: 0 S0001: 1, H0333: 1 and S3020: 1. AR055: 11, AR052: 10, AR096: 8, AR060: 8,	128-144, 346-362

| 531 | HFPCK56 | 857809 | 541 | 429 - 869 | 1946 | Pro-2 to His-10, Pro-13 to Gly-19, Ser-23 to Arg-29. | AR104: 8, AR039: 7, AR053: 7, AR089: 7, AR033: 7, AR061: 5 L0748: 4, H0333: 2, L0766: 2, H0556: 1, S0114: 1, S0116: 1, S0360: 1, H0438: 1, H0156: 1, H0599: 1, H0706: 1, H0590: 1, H0135: 1, H0264: 1, T0042: 1, L0783: 1, L0809: 1, L0544: 1, L0666: 1, L0663: 1, S0052: 1, L0439: 1, L0749: 1, S0434: 1, L0595: 1 and S0424: 1. | 307-323 |
| | | | | | | | AR096: 13, AR052: 11, AR053: 10, AR033: 10, AR089: 9, AR055: 9, AR104: 8, AR060: 8, AR061: 5, AR039: 5 L0809: 7, H0658: 6, L0748: 6, S0222: 5, L0794: 5, L0776: 5, L0756: 5, L0752: 5, L0731: 5, L0770: 4, L0662: 4, L0743: 4, L0439: 4, L0751: 4, L0754: 4, L0747: 4, L0759: 4, H0013: 3, L0769: 3, L0805: 3, L0789: 3, L0664: 3, L0740: 3, L0777: 3, L0753: 3, L0758: 3, H0333: 2, | 27-51, 126-147 |

| 532 | HAPSP72 | 857844 | 542 | 224 - | 1947 | Lys-99 to Tyr-110, | AR033: 7, AR055: 6, H0052: 2, H0545: 2, H0428: 2, L0483: 2, L0455: 2, H0509: 2, L0763: 2, L0771: 2, L0803: 2, L0804: 2, L0806: 2, L0527: 2, L0783: 2, L0666: 2, L0663: 2, S0152: 2, S0146: 2, L0744: 2, L0745: 2, L0603: 2, H0686: 1, S0116: 1, H0255: 1, S0418: 1, S0408: 1, H0645: 1, H0393: 1, L0717: 1, H0351: 1, H0370: 1, H0574: 1, H0156: 1, H0599: 1, H0590: 1, H0253: 1, H0390: 1, S0049: 1, H0009: 1, H0178: 1, H0071: 1, T0010: 1, H0252: 1, H0615: 1, T0006: 1, H0033: 1, H0424: 1, H0032: 1, H0124: 1, S0142: 1, L0638: 1, L0761: 1, L0641: 1, L0768: 1, L0774: 1, L0775: 1, L0657: 1, L0636: 1, L0517: 1, L0518: 1, L0665: 1, H0144: 1, H0659: 1, H0670: 1, H0660: 1, H0696: 1, H0626: 1, S0432: 1, S0027: 1, L0742: 1, L0750: 1, L0757: 1 and S0011: 1. | 111-129 |

533	HACBM44	857913	543	107 - 490	802	Pro-145 to Leu-152, Pro-177 to Thr-182.	AR052: 6, AR060: 5, AR096: 5, AR053: 5, AR089: 4, AR104: 3, AR061: 3, AR039: 2 L0777: 5, L0766: 3, L0740: 3, L0665: 2, H0521: 2, L0748: 2, L0779: 2, L0752: 2, H0624: 1, S0420: 1, S0442: 1, L0428: 1, H0619: 1, H0431: 1, H0575: 1, H0318: 1, L0719: 1, S0214: 1, H0598: 1, H0591: 1, H0616: 1, S0422: 1, L0770: 1, L0659: 1, H0520: 1, S3014: 1, L0742: 1, L0743: 1, L0744: 1, L0751: 1, L0747: 1, L0756: 1, L0759: 1 and S0242: 1.	47-66
					1948	Pro-23 to Glu-29, Tyr-39 to Ser-46, Pro-69 to Asp-89, Asp-112 to Pro-117.	AR033: 13, AR096: 9, AR052: 9, AR060: 8, AR089: 8, AR053: 8, AR055: 8, AR061: 5, AR039: 4, AR104: 4 L0770: 10, L0754: 8, L0731: 8, S0358: 6, S0414: 6, H0255: 5, S0022: 4, H0627: 4, L0757: 4, H0657: 3, H0090: 3, H0539: 3, L0755: 3, L0759: 3, S0026: 3, I0556: 2, S0007: 2,	

H0438: 2, S0214: 2, H0135: 2, L0764: 2, L0766: 2, L0803: 2, L0804: 2, L0806: 2, L0789: 2, L0663: 2, S0330: 2, L0740: 2, L0747: 2, L0750: 2, L0758: 2, L0596: 2, L0591: 2, S0040: 1, H0656: 1, S0001: 1, H0254: 1, S0418: 1, S0356: 1, H0229: 1, S0046: 1, H0619: 1, H0645: 1, H0550: 1, H0392: 1, H0331: 1, T0039: 1, H0635: 1, H0427: 1, S0280: 1, H0036: 1, S0010: 1, S0049: 1, H0546: 1, H0457: 1, L0471: 1, H0620: 1, H0051: 1, S0051: 1, T0010: 1, H0179: 1, S0250: 1, H0252: 1, L0143: 1, L0455: 1, S0036: 1, H0040: 1, H0616: 1, H0551: 1, H0412: 1, H0059: 1, H0494: 1, S0144: 1, S0142: 1, S0002: 1, L0521: 1, L0662: 1, L0774: 1, L0775: 1, L0809: 1, L0647: 1, H0144: 1, S0374: 1, L0438: 1, H0520: 1, H0593: 1, H0683: 1, H0684: 1, H0660: 1, H0672: 1, H0522: 1,

534	HLTEO24	857964	544	24 - 347	1949	Leu-10 to Tyr-20, Leu-24 to Ser-30.	S0037: 1, S0028: 1, L0748: 1, L0756: 1, L0777: 1, H0343: 1, L0605: 1, L0485: 1, L0599: 1, L0593: 1, L0366: 1, S0011: 1, H0665: 1 and H0543: 1. AR055: 8, AR060: 4, AR052: 4, AR061: 4, AR033: 3, AR053: 3, AR089: 3, AR096: 2, AR104: 2, AR039: 1 H0616: 3, H0619: 1, H0457: 1, H0090: 1, H0038: 1, S0422: 1, L0804: 1 and L0754: 1.	26-58, 49-65
535	HHFJP51	857977	545	72 - 422	1950	Cys-26 to Ser-32, Pro-66 to Arg-77.	AR055: 7, AR060: 6, AR052: 5, AR089: 5, AR033: 5, AR104: 4, AR039: 4, AR053: 4, AR096: 3, AR061: 3 H0124: 13, L0809: 7, L0601: 4, S0358: 2, L0666: 2, H0670: 2, L0439: 2, H0556: 1, S0420: 1, S0442: 1, H0619: 1, H0614: 1, H0587: 1, H0581: 1, H0457: 1, H0078: 1, H0271: 1, H0031: 1, H0617: 1, H0135: 1, L0762: 1, L0769: 1,	77-95, 100-116

| 536 | HHFLL87 | 858001 | 546 | 162 - 842 | 1951 | Arg-17 to Trp-23, Asp-37 to Asp-45, Gln-66 to Gly-75, Ser-137 to Ala-144. | AR033: 19, AR039: 14, AR089: 10, AR055: 9, AR053: 9, AR052: 8, AR096: 6, AR060: 6, AR061: 6, AR104: 4 L0745: 13, L0769: 7, S0036: 6, L0753: 5, S0031: 5, H0052: 4, H0327: 4, H0046: 4, H0051: 4, T0006: 4, L0742: 4, L0746: 4, L0756: 4, L0752: 4, S6024: 4, S0282: 3, H0619: 3, S0388: 3, S0051: 3, L0741: 3, L0749: 3, S0222: 2, S0049: 2, S6028: 2, L0806: 2, L0776: 2, L0438: 2, L0777: 2, S0035: 1, H0662: 1, H0438: 1, L0021: 1, H0575: 1, S0182: 1, H0310: 1, H0009: 1, H0050: 1, T0010: 1, H0399: 1, H0615: | L0373: 1, L0800: 1, L0662: 1, L0363: 1, L0794: 1, L0803: 1, L0774: 1, L0775: 1, L0375: 1, L0655: 1, L0664: 1, L0665: 1, S0374: 1, H0547: 1, H0682: 1, H0658: 1, S0152: 1, L0747: 1, L0779: 1, L0596: 1 and L0592: 1. | 172-190, 197-213 |

							Residues			Range
							1, H0604: 1, L0456: 1, L0763: 1, L0770: 1, L0630: 1, L0381: 1, L0774: 1, L0775: 1, L0805: 1, L0659: 1, L0788: 1, H0689: 1, H0684: 1, H0670: 1, H0134: 1, H0478: 1, L0612: 1, L0743: 1, L0747: 1, L0779: 1, L0758: 1, S0260: 1 and L0366: 1.			89-105, 1-17
537	HCUDR30	858010	547	33 - 542	1952	Leu-69 to Asp-76.	AR096: 2, AR055: 2, AR104: 1, AR061: 1, AR039: 0, AR033: 2, AR053: 1, AR089: 1, AR060: 1, AR052: 0, H0553: 2, T0049: 1, H0656: 1, H0402: 1, H0125: 1, S0045: 1, H0619: 1, H0586: 1, T0114: 1, H0581: 1, H0628: 1, H0551: 1, S0310: 1, H0520: 1, H0539: 1, H0521: 1, L0779: 1, S0434: 1 and L0485: 1.			
538	HHFHI24	858020	548	75 - 431	1953	Pro-30 to His-50.	AR039: 2, AR055: 1, AR061: 1, AR104: 1, AR060: 0, AR089: 0, AR033: 0, AR096: 0, AR052: 0, AR053: 0, L0749: 3, H0341: 1 and			81-97

539	HSIAI48	858030	163 – 573	549		H0050: 1. AR104: 513, AR061: 376, AR055: 327, AR060: 253, AR033: 188, AR089: 172, AR039: 115, AR053: 110, AR052: 101, AR096: 87 H0036: 1, H0050: 1 and H0673: 1.		94-113, 17-33
540	HHFBP47	858073	517 – 945	550		AR055: 7, AR089: 6, AR033: 5, AR096: 5, AR104: 4, AR060: 4, AR061: 4, AR039: 3, AR052: 3, AR053: 3 L0748: 2, L0749: 2, H0085: 1, H0050: 1, H0090: 1 and L0758: 1.		7-31, 56-73, 39-55
541	HKADE35	858104	66 – 593	551	Thr-30 to Ala-35, Ala-72 to Trp-83, Thr-138 to Ala-151.	AR039: 8, AR089: 2, AR052: 2, AR061: 1, AR060: 1, AR096: 0, AR033: 0, AR104: 0 L0758: 9, L0748: 6, L0747: 6, L0779: 5, L0750: 4, H0556: 3, L0804: 3, H0658: 3, H0656: 2, L0770: 2, L0769: 2, L0774: 2, H0144: 2, H0648: 2, L0439: 2, L0749: 2, L0596: 2, H0265: 1, S0444: 1, H0318: 1, H0597: 1, H0050: 1,		95-130, 120-136

| 542 | HCFAW88 | 858107 | 552 | 103 - 495 | 1957 | Ser-122 to Trp-131. | H0024: 1, H0135: 1, H0090: 1, H0038: 1, H0616: 1, H0494: 1, L0065: 1, S0422: 1, H0529: 1, L0637: 1, L0764: 1, L0768: 1, L0794: 1, L0387: 1, L0803: 1, L0788: 1, L0790: 1, L0664: 1, L0438: 1, H0555: 1, L0780: 1, L0731: 1, H0444: 1, H0542: 1, H0543: 1 and H0423: 1. | AR033: 3, AR089: 2, AR053: 2, AR055: 2, AR060: 2, AR104: 1, AR061: 1, AR096: 1, AR039: 1, AR052: 0 L0731: 9, L0803: 8, H0436: 6, L0740: 6, L0756: 6, L0805: 5, L0754: 5, L0783: 4, L0747: 4, L0749: 4, L0777: 4, H0556: 3, H0013: 3, L0771: 3, L0794: 3, L0774: 3, L0775: 3, L0809: 3, L0665: 3, L0757: 3, L0759: 3, L0599: 3, H0422: 3, H0341: 2, L0005: 2, S0046: 2, H0586: 2, H0427: 2, S0280: 2, H0201: 2, H0553: 2, H0040: 2, H0551: 2, T0042: 2, L0770: | 67-88, 3-30, 34-52, 96-123 |

2, L0769: 2, L0764: 2, L0766: 2, L0790: 2, H0144: 2, L0438: 2, H0547: 2, S0406: 2, L0439: 2, L0751: 2, L0750: 2, L0779: 2, L0752: 2, L0581: 2, H0543: 2, H0685: 1, S0040: 1, L0002: 1, S0418: 1, S0354: 1, S0358: 1, S0376: 1, S0045: 1, S0222: 1, H0333: 1, H0331: 1, H0492: 1, S0010: 1, H0052: 1, T0110: 1, H0327: 1, H0530: 1, H0545: 1, L0471: 1, H0620: 1, H0015: 1, H0373: 1, S0003: 1, S0214: 1, H0428: 1, H0039: 1, H0316: 1, H0591: 1, H0264: 1, S0112: 1, H0494: 1, H0560: 1, L0065: 1, H0509: 1, H0646: 1, S0144: 1, S0422: 1, H0529: 1, H0026: 1, L0372: 1, L0641: 1, L0643: 1, L0662: 1, L0768: 1, L0804: 1, L0776: 1, L0655: 1, L0659: 1, L0791: 1, L0663: 1, H0435: 1, H0539: 1, S0152: 1, H0522: 1, H0696: 1, L0748: 1, L0758: 1, H0343: 1, S0436: 1, L0589:

543	HISCV20	858108	553	123 - 1340	1958	Pro-58 to His-71, Thr-168 to His-174, Phe-177 to Lys-192, Gln-226 to Ser-234.	1, S0026: 1, H0136: 1, H0216: 1 and H0506: 1. AR060: 1, AR089: 1, AR061: 1, AR053: 0, AR052: 0 AR033: 1, AR104: 1, AR096: 0, AR039: 0, AR055: 0 L0752: 13, S0003: 11, L0754: 11, L0794: 9, H0521: 7, L0777: 6, H0250: 5, L0770: 5, L0766: 5, L0755: 5, S0242: 5, H0543: 5, H0046: 4, L0803: 4, L0804: 4, S0196: 4, H0556: 3, S0440: 3, H0529: 3, L0756: 3, L0599: 3, H0220: 2, H0638: 2, S0408: 2, H0486: 2, H0581: 2, S0214: 2, H0553: 2, H0652: 2, S0422: 2, L0771: 2, L0773: 2, L0775: 2, L0806: 2, L0805: 2, L0779: 2, H0542: 2, L0600: 2, H0656: 1, S0358: 1, S0360: 1, S0476: 1, H0393: 1, H0270: 1, L0021: 1, H0318: 1, H0421: 1, H0596: 1, H0572: 1, H0057: 1, H0373: 1, H0355: 1, H0375: 1, H0674: 1, H0090: 1, H0634: 1, H0646:	76-99, 314-332, 337-357, 383-400, 106-124, 141-157, 271-287, 242-258, 297-313

544	HHEUE88	858214	554	478 - 1167	1959	Asn-5 to Glu-15.		102-118

1, L0769: 1, L0372: 1, L0764: 1, L0387: 1, L0784: 1, L0607: 1, L0659: 1, L0788: 1, L0666: 1, L0663: 1, S0148: 1, H0659: 1, H0651: 1, S0328: 1, H0539: 1, S0152: 1, H0478: 1, L0748: 1, L0740: 1, L0731: 1, L0759: 1, L0362: 1, H0422: 1 and S0424: 1.

AR033: 2, AR060: 2, AR089: 1, AR061: 1, AR096: 1, AR039: 0, AR055: 0, AR052: 0, AR104: 0, AR053: 0 L0439: 5, H0592: 2, H0039: 2, H0494: 2, L0662: 2, L0659: 2, H0521: 2, L0748: 2, S0218: 1, H0657: 1, S0418: 1, S0376: 1, S0360: 1, H0580: 1, H0431: 1, H0333: 1, L0482: 1, H0581: 1, H0596: 1, H0050: 1, H0014: 1, H0622: 1, H0038: 1, L0564: 1, H0561: 1, S0422: 1, L0770: 1, L0800: 1, L0768: 1, L0803: 1, L0805: 1, L0776: 1, L0518: 1, L0352: 1, H0520: 1, L0779: 1, L0759: 1,

545	HHESR56	858221	555	22 - 417	1960	Arg-44 to Gln-55.		73-98, 8-26, 100-116
							L0592: 1, L0593: 1, H0543: 1 and H0506: 1. AR053: 10, AR052: 10, AR089: 8, AR096: 7, AR033: 4, AR060: 3, AR061: 3, AR055: 2, AR104: 2, AR039: 0 S0410: 11, L0803: 4, L0659: 4, H0618: 3, H0135: 3, L0637: 3, L0809: 3, L0666: 3, H0696: 3, L0779: 3, S0376: 2, S0132: 2, H0592: 2, H0253: 2, H0050: 2, H0087: 2, H0560: 2, L0761: 2, S0374: 2, L0743: 2, L0751: 2, L0749: 2, L0731: 2, L0759: 2, H0542: 2, H0543: 2, H0171: 1, H0225: 1, H0341: 1, S0212: 1, H0483: 1, S0444: 1, S0408: 1, H0393: 1, L0717: 1, H0370: 1, H0249: 1, H0486: 1, H0101: 1, H0250: 1, H0706: 1, T0048: 1, H0581: 1, H0545: 1, H0009: 1, H0024: 1, H0271: 1, H0288: 1, H0617: 1, S0364: 1, H0163: 1, H0551: 1, H0488: 1, H0100: 1, H0494: 1, L4497: 1, L0770: 1,	

| 546 | HHENU62 | 858281 | 556 | 91 - 477 | 1961 | Leu-115 to Pro-129. | AR096: 2, AR055: 1, AR089: 1, AR061: 0, AR060: 0, AR104: 0, AR039: 0 L0766: 2, L0749: 2, H0650: 1, H0581: 1, H0252: 1, H0538: 1, L0771: 1, L0809: 1, L0747: 1, L0757: 1 and H0543: 1. | L0769: 1, L5575: 1, L5565: 1, L3905: 1, L0646: 1, L0764: 1, L0766: 1, L0650: 1, L0774: 1, L0378: 1, L0788: 1, L0790: 1, L0664: 1, L0665: 1, S0126: 1, H0711: 1, S0330: 1, H0436: 1, S0392: 1, S0037: 1, L0742: 1, L0755: 1, L0758: 1, H0445: 1, H0653: 1 and H0423: 1. | 28-61, 91-109, 9-25, 71-87 |
| 547 | HE2RG38 | 858353 | 557 | 54 - 1151 | 1962 | Met-1 to Glu-8, Glu-37 to Asp-58, Gln-75 to Leu-81. | AR039: 2, AR104: 1, AR096: 1, AR061: 1, AR089: 1, AR060: 1, AR053: 0, AR033: 0, AR055: 0, AR052: 0 L0761: 8, L0806: 5, H0593: 5, H0436: 5, H0581: 4, H0052: 4, L0766: 4, H0521: 4, L0745: 4, L0731: 4 | | 266-295, 243-266, 302-318, 82-98 |

4, L0759: 4, S0356: 3,
L0600: 3, H0624: 2, H0713:
2, H0333: 2, H0618: 2,
H0546: 2, H0545: 2, H0457:
2, H0617: 2, H0606: 2,
H0100: 2, L0770: 2, L0764:
2, L0774: 2, L0775: 2,
L0653: 2, L0659: 2, L0547:
2, L0809: 2, L0666: 2,
H0672: 2, H0539: 2, H0522:
2, L0751: 2, L0747: 2,
L0750: 2, L0752: 2, L0757:
2, H0543: 2, H0583: 1,
H0341: 1, H0484: 1, H0669:
1, H0306: 1, H0458: 1,
S0418: 1, S0420: 1, H0675:
1, H0676: 1, S0045: 1,
H0550: 1, H0392: 1, H0592:
1, H0586: 1, H0587: 1,
H0485: 1, H0635: 1, H0575:
1, H0253: 1, H0318: 1,
H0544: 1, H0009: 1, H0688:
1, H0634: 1, H0087: 1,
H0551: 1, L0351: 1, S0438:
1, H0641: 1, H0649: 1,
S0002: 1, H0695: 1, L0763:
1, L3904: 1, L0773: 1,
L0767: 1, L0649: 1, L0803:
1, L0650: 1, L0375: 1,
L0776: 1, L0657: 1, L0783:

| 548 | HCEVS49 | 858355 | 558 | 47 - 3001 | 1963 | Met-1 to Ser-6, Leu-10 to Ser-17, Met-20 to Ser-25. | 1, L4501: 1, L0663: 1, L0565: 1, H0519: 1, S0126: 1, H0689: 1, H0683: 1, H0684: 1, H0659: 1, H0670: 1, S0330: 1, S0380: 1, H0696: 1, H0134: 1, H0555: 1, L0609: 1, S0027: 1, S0028: 1, L0741: 1, L0743: 1, L0439: 1, L0777: 1, L0780: 1, S0434: 1, S0436: 1, H0216: 1, H0542: 1, H0423: 1 and H0506: 1. | 673-697, 319-335, 635-651, 804-820, 438-454, 876-892 |
| | | | | | | AR053: 4, AR089: 3, AR052: 3, AR096: 2, AR060: 1, AR033: 1, AR104: 1, AR061: 1, AR039: 0, AR055: 0 H0052: 8, L0439: 7, H0556: 6, H0618: 6, H0265: 5, L0758: 5, H0253: 4, L0764: 4, H0617: 3, S0152: 3, H0341: 2, S0420: 2, L0717: 2, H0559: 2, H0251: 2, H0620: 2, H0428: 2, H0135: 2, T0041: 2, L0809: 2, L0368: 2, L0665: 2, H0520: 2, H0547: 2, H0658: 2, L0744: 2, L0754: 2, L0591: 2, L0593: 2, L0601: 2, T0002: 1, H0686: 1, | | |

549	HKGBP90	858433	559	229 - 834	1964	Leu-21 to Tyr-28.		59-77, 87-103, 142-
							S0040: 1, S0418: 1, S0358: 1, S0376: 1, H0261: 1, H0549: 1, H0550: 1, T0039: 1, H0318: 1, S0474: 1, H0194: 1, T0110: 1, H0046: 1, H0012: 1, S0051: 1, H0266: 1, H0181: 1, L0456: 1, H0040: 1, H0087: 1, H0100: 1, T0042: 1, H0494: 1, S0438: 1, S0002: 1, H0529: 1, L0772: 1, L0800: 1, L0662: 1, L0363: 1, L0794: 1, L0649: 1, L0803: 1, L0774: 1, L0375: 1, L0378: 1, L0658: 1, L0783: 1, L0790: 1, L0791: 1, L0792: 1, L0666: 1, S0148: 1, L0438: 1, L0352: 1, H0519: 1, H0670: 1, H0672: 1, H0521: 1, H0696: 1, S0044: 1, H0555: 1, H0436: 1, L0745: 1, L0747: 1, L0779: 1, L0731: 1, S0031: 1, H0445: 1, H0595: 1, L0608: 1, L0361: 1, H0665: 1, H0667: 1, H0542: 1, S0424: 1, H0008: 1 and H0352: 1. AR096: 1, AR053: 1, AR089: 1, AR033: 1,	

No	ID					Residues	AR data	Positions
							AR061: 1, AR060: 0, AR052: 0, AR055: 0, AR104: 0 H0266: 2, L0748: 2, L0777: 2, H0486: 1, H0373: 1, H0494: 1, S0014: 1, H0538: 1, L0803: 1, S0044: 1, L0740: 1, L0779: 1, L0759: 1, H0445: 1 and H0665: 1.	158, 186-202
550	HOELK66	858436	560	105 - 1442	1965	His-87 to Glu-93, Pro-217 to Leu-222, Glu-224 to Lys-230, Val-264 to Trp-275, Phe-311 to Asn-316, Asp-344 to Gly-349, Gly-363 to Gln-379, Gly-398 to Gly-404, Gly-437 to Ser-446.	AR096: 20, AR089: 16, AR052: 13, AR053: 10, AR039: 9, AR104: 9, AR060: 8, AR055: 8, AR033: 6, AR061: 4 S0476: 2, H0713: 1, H0580: 1, S0045: 1, S0132: 1, H0599: 1, L0143: 1, H0551: 1, H0488: 1, S0126: 1, L0777: 1, L0731: 1, L0485: 1 and S0242: 1.	59-75, 232-248, 177-193
551	HHFMX34	858449	561	69 - 686	1966	Ile-49 to Gln-55, Phe-57 to Ala-63.	AR096: 17, AR039: 14, AR089: 12, AR060: 11, AR055: 11, AR053: 10, AR033: 10, AR104: 9, AR052: 9, AR061: 5 H0556: 1, S0420: 1, S0358: 1, H0619: 1, H0373: 1, H0702: 1, S0027: 1,	106-123, 23-39

| 552 | HOUED48 | 858450 | 562 | 412 - 966 | 1967 | Glu-46 to Arg-53. | 11 | H0423: 1 and H0422: 1. AR055: 6, AR052: 4, AR033: 4, AR053: 4, AR060: 3, AR061: 3, AR096: 2, AR089: 2, AR039: 2, AR104: 1 L0766: 13, L0439: 6, H0012: 3, H0266: 3, L0770: 3, L0761: 3, L0655: 3, I10650: 2, H0031: 2, L0653: 2, L0776: 2, L0751: 2, L0747: 2, H0171: 1, S0040: 1, S6024: 1, H0656: 1, S0282: 1, S0045: 1, S0132: 1, S0222: 1, L0021: 1, H0051: 1, H0271: 1, H0688: 1, H0383: 1, H0412: 1, L0769: 1, L0642: 1, L0775: 1, L0375: 1, L0659: 1, L0664: 1, L0665: 1, H0672: 1, H0521: 1, H0436: 1, S0027: 1, S0028: 1, S0206: 1, L0743: 1, L0750: 1, L0757: 1, L0758: 1, L0097: 1, H0423: 1, S0456: 1 and H0506: 1. | 107-129, 62-78, 81-97 |
| 553 | IHIBBI26 | 858451 | 563 | 213 - 749 | 1968 | Pro-8 to Leu-14. | | AR033: 2, AR060: 2, AR053: 2, AR096: 2, AR039: 2, AR104: 1, | 47-63 |

#	ID								
554	HHAUZ72	858492	564	216 - 626	1969	Thr-33 to Pro-39.	AR089: 1, AR055: 1, AR061: 1, AR052: 0, H0583: 1, H0650: 1, H0250: 1, H0599: 1, H0373: 1, H0266: 1, S0038: 1, S0044: 1, S0028: 1 and H0653: 1.	AR052: 2, AR053: 2, AR055: 2, AR096: 2, AR061: 1, AR089: 1, AR060: 1, AR033: 1, AR039: 1, AR104: 1 H0635: 2, S0418: 1, H0388: 1, H0436: 1 and S0031: 1.	79-98, 39-56, 15-31
555	HWMAM41	858536	565	231 - 638	1970			AR096: 28, AR053: 10, AR039: 5, AR089: 5, AR052: 5, AR061: 3, AR055: 3, AR060: 2, AR033: 2, AR104: 2 S0007: 5, L0742: 5, L0731: 5, S0444: 4, L0769: 4, L0766: 4, L0740: 4, L0747: 4, L0749: 4, L0756: 4, L0596: 4, H0031: 3, L0065: 3, L0775: 3, L0809: 3, S0126: 3, L0759: 3, S0354: 2, H0438: 2, H0083: 2, L0371: 2, L0770: 2,	10-43, 111-132, 78-96, 39-55

| 556 | HCEOV70 | 858578 | 566 | 359 - 694 | 1971 | L0772: 2, L0803: 2, L0776: 2, L0783: 2, H0555: 2, L0439: 2, L0755: 2, L0758: 2, L0591: 2, S0011: 2, H0556: 1, H0685: 1, H0656: 1, H0341: 1, S0418: 1, S0360: 1, H0331: 1, H0632: 1, H0013: 1, H0349: 1, H0546: 1, H0566: 1, S0022: 1, H0135: 1, H0040: 1, H0616: 1, S0386: 1, H0494: 1, S0438: 1, H0130: 1, H0646: 1, L0637: 1, L0761: 1, L0372: 1, L0800: 1, L0767: 1, L0794: 1, L0517: 1, L0647: 1, L0666: 1, L0663: 1, H0144: 1, T0068: 1, H0520: 1, H0690: 1, S0330: 1, H0521: 1, S3012: 1, L0777: 1, S0436: 1, H0543: 1 and H0352: 1. | Ser-9 to Arg-15. | AR055: 15, AR060: 13, AR033: 12, AR089: 9, AR104: 8, AR052: 8, AR061: 7, AR096: 7, AR039: 7, AR053: 6 | 77-93 |
| 557 | HKGDL95 | 858584 | 567 | 278 - 1690 | 1972 | | | AR052: 6, AR096: 4, AR053: 4, AR060: 3 | 49-66 |

558	HSKGN12	858602	568	378 - 776	1973	Asp-28 to Trp-33, Gly-59 to Ser-71.	AR055: 8, AR053: 6, AR104: 6, AR060: 6, AR033: 6, AR096: 5, AR052: 5, AR089: 4, AR061: 4, AR039: 3 L0748: 11, L0752: 5, S0003: 4, H0638: 3, L0747: 3, L0755: 3, L0759: 3, H0171: 2, T0114: 2, H0674: 2, S0422: 2, L0764: 2, L0766: 2, L0775: 2, L0740: 2, L0754: 2, L0749: 2, L0758: 2, H0170: 1, T0002: 1, H0295: 1, H0341: 1, S0212: 1, S0442: 1, S0444: 1, H0574: 1, H0156: 1,	3-29, 33-60, 76-98, 104-121
							AR089: 3, AR033: 2, AR104: 2, AR061: 1, AR055: 1, AR039: 0 S0010: 3, L0731: 3, H0542: 2, S0134: 1, L0002: 1, S0418: 1, H0369: 1, H0486: 1, H0013: 1, S0280: 1, H0581: 1, S0049: 1, H0057: 1, S0022: 1, H0538: 1, H0529: 1, L0761: 1, L0667: 1, L0803: 1, L0653: 1, L0647: 1, L0793: 1, H0144: 1, L0355: 1, S0434: 1 and H0422: 1.	

| 559 | HCEGR84 | 858644 | 569 | 173 - 691 | 1974 | Asn-30 to Cys-37. | H0575: 1, H0596: 1, H0530: 1, L0157: 1, H0123: 1, H0620: 1, S0388: 1, H0428: 1, H0031: 1, H0264: 1, S0014: 1, S0450: 1, H0529: 1, L0763: 1, L0770: 1, L0803: 1, L0804: 1, L0776: 1, L0655: 1, L0809: 1, S0052: 1, S0374: 1, H0520: 1, H0547: 1, S0122: 1, H0670: 1, H0648: 1, H0521: 1, S3014: 1, L0777: 1, L0780: 1, L0731: 1, H0445: 1, L0589: 1 and S0194: 1. | AR104: 18, AR052: 17, AR033: 16, AR053: 9, AR096: 8, AR089: 6, AR060: 5, AR039: 4, AR061: 4, AR055: 3 S0414: 17, L0758: 14, L0752: 13, L0740: 12, S0222: 11, L0439: 11, H0441: 8, H0052: 8, L0770: 8, L0777: 8, L0741: 7, S0010: 6, H0327: 6, S0036: 6, L0779: 6, H0620: 5, H0051: 5, L0803: 5, S0051: 4, H0644: 4, L0805: 4, L0809: 4, L0742: 4, L0744: 4, H0599: 3, H0059: 3, | 55-86, 90-115, 123-147, 10-30, 45-61 |

L0768: 3, L0804: 3, L0774: 3, H0144: 3, S0330: 3, L0751: 3, L0754: 3, L0750: 3, S0412: 3, S0300: 2, H0438: 2, H0012: 2, S0050: 2, S0388: 2, T0010: 2, H0615: 2, H0553: 2, L0769: 2, L0794: 2, L0776: 2, L0789: 2, L0666: 2, L0663: 2, L0438: 2, L0743: 2, L0753: 2, L0755: 2, L0759: 2, S0031: 2, S0260: 2, L0608: 2, H0717: 1, H0716: 1, S6024: 1, S0282: 1, L0005: 1, S0007: 1, S0220: 1, H0586: 1, H0333: 1, H0013: 1, S0049: 1, H0050: 1, H0023: 1, H0399: 1, H0688: 1, H0040: 1, T0067: 1, S0386: 1, H0100: 1, S0039: 1, S0112: 1, L0351: 1, S0294: 1, S0440: 1, L0763: 1, L0800: 1, L0764: 1, L0662: 1, L0775: 1, L0651: 1, L0661: 1, L0807: 1, L0657: 1, L0793: 1, L0664: 1, H0520: 1, H0547: 1, H0593: 1, H0689: 1, H0670: 1, H0648: 1, H0696: 1, L0609: 1, L0747: 1,

560	HMIBL51	858727	570	817 - 1185	1975		AR055: 17, AR033: 9, AR061: 9, AR060: 8, AR052: 8, AR089: 6, AR104: 5, AR096: 5, AR053: 5, AR039: 4 L0439: 3, H0455: 1, H0427: 1, H0575: 1, S0010: 1, H0390: 1, S0346: 1, L0163: 1, S6028: 1, H0428: 1, S0150: 1 and L0743: 1. L0756: 1, L0731: 1, S0434: 1 and S0021: 1.	103-122, 6-22
561	HFXJP30	858754	571	32 - 946	1976	Trp-8 to Arg-14, Asp-74 to Gln-79, Ala-96 to Thr-104.	AR052: 12, AR053: 7, AR096: 6, AR089: 4, AR039: 4, AR104: 3, AR055: 3, AR060: 3, AR061: 3, AR033: 2 H0419: 3, S0282: 2, S0028: 2, H0717: 1, H0381: 1, L0105: 1, H0135: 1, S0052: 1 and S0044: 1.	188-227, 269-293, 182-202, 50-72, 118-137, 153-170, 241-258, 14-30
562	HCHMP94	858877	572	85 - 603	1977	Asn-159 to Thr-173.	AR039: 5, AR033: 4, AR060: 4, AR096: 3, AR052: 3, AR089: 2, AR055: 2, AR104: 2, AR061: 2, AR053: 1 L0777: 4, L0751: 3, L0747: 3, H0661: 2, L0648: 2, L0561: 2, L0779: 2,	99-126, 19-37, 70-86

| 563 | HOHBO69 | 858909 | 573 | 76 - 378 | 1978 | Met-1 to Ser-8, Gln-37 to Asn-42, Lys-47 to Glu-54, Glu-61 to Gly-69. | AR096: 2, AR089: 1, AR104: 1, AR060: 1, AR061: 1, AR033: 1, AR055: 1, AR039: 0, AR052: 0, AR053: 0 S0126: 21, S0212: 14, S0250: 8, S0022: 8, S0028: 7, H0266: 6, S0040: 5, L0565: 4, S0420: 3, S0390: 3, L0740: 3, S0418: 2, H0550: 2, H0615: 2, H0622: 2, H0623: 2, S0208: 2, L0751: 2, L0777: 2, S0134: 1, S0180: 1, S0298: 1, S0360: 1, H0619: 1, H0486: 1, H0575: 1, H0544: 1, H0545: 1, H0050: 1, H0024: 1, H0551: 1, H0100: 1, L0753: 2, S0342: 1, H0484: 1, S0358: 1, L0009: 1, H0411: 1, S0222: 1, S6014: 1, H0546: 1, H0123: 1, H0188: 1, S0366: 1, H0413: 1, H0494: 1, S0344: 1, H0529: 1, L0769: 1, L0627: 1, L0774: 1, L0378: 1, L0776: 1, L0655: 1, L0663: 1, S0148: 1, S0380: 1, H0478: 1, L0743: 1, L0439: 1, L0750: 1 and S0196: 1. | 3q11.1-q13.2 | 600882 | 77-96 |

| 564 | IIBJHY72 | 858921 | 574 | 634 - 137 | 1979 | Asn-7 to Arg-15, His-143 to Phe-148. | S0015: 1, H0538: 1, L0598: 1, L0772: 1, L0800: 1, L0662: 1, L0649: 1, L0775: 1, H0519: 1, H0593: 1, S3014: 1, S0032: 1, L0757: 1, S0434: 1, H0653: 1, H0665: 1, H0667: 1, S0276: 1 and S0196: 1. | AR052: 12, AR055: 8, AR053: 8, AR033: 6, AR089: 6, AR061: 6, AR060: 5, AR096: 1, AR104: 1, AR039: 0 L0794: 5, L0766: 3, L0759: 3, S0212: 2, H0318: 2, L0803: 2, L0804: 2, L0378: 2, L0665: 2, L0438: 2, L0439: 2, L0749: 2, L0591: 2, L0599: 2, L0362: 2, H0686: 1, S0342: 1, S0134: 1, H0656: 1, H0669: 1, S0358: 1, H0370: 1, H0069: 1, S0346: 1, H0251: 1, H0050: 1, H0373: 1, H0266: 1, S0022: 1, L0483: 1, H0553: 1, H0163: 1, H0090: 1, H0116: 1, H0509: 1, S0426: 1, H0529: 1, L0769: 1, L0638: 1, L0646: 1, L0648: 1, L0768: 1, | 89-106, 126-142, 56-72 |

| 565 | HWEAD78 | 858922 | 575 | 1026 - 2279 | 1980 | Pro-54 to Tyr-61, Asp-132 to Leu-139, Ser-176 to Asp-183. | AR055: 183, AR096: 110, AR033: 22, AR061: 22, AR089: 21, AR060: 20, AR104: 18, AR039: 4, AR052: 4, AR053: 3, H0341: 2, S0045: 2, H0551: 2, H0556: 1, S0376: 1, H0619: 1, H0437: 1, H0601: 1, H0333: 1, H0485: 1, H0013: 1, H0635: 1, H0590: 1, H0318: 1, H0009: 1, H0266: 1, H0267: 1, S0003: 1, H0615: 1, H0644: 1, H0383: 1, H0068: 1, H0316: 1, H0116: 1, H0264: 1, H0561: 1, L0768: 1, L0794: 1, H0144: 1, H0436: 1, S0028: 1, L0744: 1, H0445: 1, H0542: 1 and S0424: 1. | L0381: 1, L0375: 1, L0653: 1, L0659: 1, L0782: 1, L0809: 1, L0793: 1, H0691: 1, H0435: 1, H0659: 1, H0648: 1, S0152: 1, S0390: 1, S0027: 1, S0028: 1, L0777: 1, L0731: 1, S0260: 1, L0596: 1, S0192: 1 and S0424: 1. | 243-259, 71-87, 318-334 |

566	HFIBK06	858956	576	110 - 1213	1981	Arg-3 to Phe-10, Val-18 to Cys-23, His-64 to Tyr-73, Ser-181 to Gly-186, Glu-211 to Pro-221, Gly-284 to Ser-289, Thr-296 to Tyr-301, Phe-308 to Gly-318, Pro-321 to Asp-326.	AR039: 1, AR055: 1, AR089: 1, AR096: 0, AR061: 0, AR060: 0, AR053: 0, AR052: 0, AR104: 0, AR033: 0 S0192: 19, H0551: 9, S0002: 9, H0521: 9, L0740: 9, L0731: 8, S0152: 6, H0090: 5, H0547: 5, L0777: 5, S0360: 4, S0214: 4, S0144: 4, L0776: 4, L0747: 4, L0759: 4, L0596: 4, S0212: 3, S0278: 3, L0770: 3, L0766: 3, H0144: 3, S0126: 3, S0342: 2, S0418: 2, S0420: 2, S0046: 2, S0222: 2, H0497: 2, H0575: 2, H0327: 2, H0266: 2, S0250: 2, S0003: 2, H0031: 2, H0644: 2, I10040: 2, H0264: 2, H0623: 2, S0344: 2, L0598: 2, L0769: 2, L0662: 2, L0804: 2, L0775: 2, L0663: 2, L0565: 2, S0330: 2, S0028: 2, S0206: 2, L0439: 2, L0754: 2, L0750: 2, L0756: 2, L0752: 2, L0599: 2, S0276: 2, H0556: 1, S0040: 1, S0001: 1, S0282: 1, S0358: 1,				44-62, 144-160

S0376: 1, H0580: 1, H0619: 1, H0411: 1, H0409: 1, H0586: 1, H0587: 1, H0574: 1, L0622: 1, H0486: 1, T0039: 1, T0040: 1, T0109: 1, L0021: 1, T0082: 1, H0421: 1, H0194: 1, H0231: 1, H0544: 1, H0045: 1, H0024: 1, H0014: 1, H0051: 1, T0010: 1, S6028: 1, H0553: 1, H0628: 1, L0055: 1, H0383: 1, H0212: 1, H0124: 1, H0598: 1, H0038: 1, H0634: 1, H0268: 1, H0412: 1, H0056: 1, H0494: 1, H0625: 1, H0641: 1, H0633: 1, S0142: 1, S0210: 1, S0426: 1, H0529: 1, L0369: 1, L0372: 1, L0646: 1, L0374: 1, L0764: 1, L0768: 1, L0794: 1, L0803: 1, L0805: 1, L0652: 1, L0783: 1, L0664: 1, S0052: 1, H0519: 1, H0670: 1, H0672: 1, H0539: 1, L0602: 1, S0350: 1, S3012: 1, S0037: 1, S0032: 1, L0744: 1, L0751: 1, L0779: 1, L0753: 1, L0757: 1, S0434: 1, L0581: 1, L0593: 1,

567	HE9RF77	858957	577	150 - 974	1982	Arg-9 to Lys-26, Pro-79 to Asp-87, Arg-200 to Trp-219.	

AR055: 5, AR061: 5,
AR096: 3, AR060: 3,
AR033: 3, AR052: 3,
AR053: 3, AR039: 2,
AR089: 2, AR104: 1
L0777: 7, L0769: 6,
L0771: 5, L0794: 5, L0805: 4, H0734: 3, H0031: 3,
L0803: 3, L0740: 3, H0265: 2, S0360: 2, H0635: 2,
H0318: 2, H0457: 2, S0364: 2, H0090: 2, L0662: 2,
H0144: 2, L0748: 2, L0439: 2, L0755: 2, H0556: 1,
H0713: 1, S6024: 1, H0341: 1, S0418: 1, S0356: 1,
S0354: 1, S0376: 1, S0408: 1, S0410: 1, S0278: 1,
H0370: 1, H0250: 1, L0021: 1, H0599: 1, H0575: 1,
H0036: 1, H0052: 1, H0567: 1, L0471: 1, H0024: 1,
H0083: 1, H0687: 1, S0003: 1, H0615: 1, H0030: 1,
L0055: 1, H0591: 1, S0294: 1, H0647: 1, L0598: 1,
L0667: 1, L0772: 1, L0646:

S0026: 1, H0136: 1, H0216: 1, H0542: 1, H0423: 1 and S0412: 1.

180-198, 136-152, 235-251

568	HCEEU61	859028	578	341 - 3	1983		AR033: 8, AR104: 8, AR055: 4, AR061: 3, AR089: 2, AR039: 2, AR060: 2, AR052: 2, AR053: 1, AR096: 1 L0758: 4, L0769: 3, L0803: 3, H0295: 2, S0007: 2, L0438: 2, L0740: 2, L0757: 2, S0418: 1, S0420: 1, L0021: 1, H0706: 1, H0052: 1, S0250: 1, H0328: 1, H0213: 1, S0366: 1, L0662: 1, L0774: 1, L0659: 1, L0790: 1, L0664: 1, S0027: 1, L0741: 1, L0743: 1, L0756: 1, L0777: 1 and L0731: 1.	1, L0800: 1, L0768: 1, L0766: 1, L0386: 1, L0775: 1, L4501: 1, L0665: 1, I10519: 1, H0648: 1, H0521: 1, S0406: 1, H0576: 1, L0749: 1, L0779: 1, L0780: 1, L0752: 1, L0731: 1, L0757: 1, L0758: 1, L0591: 1, H0423: 1 and H0422: 1.		80-98
569	HOHBV41	859036	579	351 - 689	1984	Val-2 to Arg-12, His-21 to Ile-43.	AR096: 1, AR033: 1, AR061: 1, AR055: 0, AR060: 0, AR089: 0. L0731: 1.		4p15.2	71-95

570	HHFKC41	859165	580	118 - 1341	1985	Met-1 to Gly-6, Arg-8 to Ala-19, Ser-32 to Ala-46, Ala-57 to Pro-76, Ala-78 to Arg-88, Thr-95 to Ser-104, Lys-126 to Glu-138.	AR039: 0, AR052: 0, AR053: 0 H0251: 1 and S0250: 1.	AR096: 2, AR089: 2, AR033: 1, AR104: 1, AR060: 1, AR053: 1, AR052: 1, AR055: 1, AR061: 0, AR039: 0 L0745: 8, S0422: 5, H0615: 3, L0759: 3, H0543: 3, L0783: 2, L0665: 2, S0126: 2, L0604: 2, S0242: 2, H0170: 1, H0661: 1, S0418: 1, S0360: 1, H0619: 1, H0550: 1, H0123: 1, H0266: 1, S0312: 1, S0003: 1, H0551: 1, H0413: 1, T0042: 1, H0494: 1, S0440: 1, H0529: 1, L0771: 1, L0773: 1, L0803: 1, L0657: 1, H0690: 1, H0659: 1, L0754: 1, L0731: 1, L0757: 1, H0216: 1, S0276: 1 and S0196: 1.	352-378, 232-252, 307-324, 271-287
571	IIMWGG4 4	859189	581	108 - 1124	1986	Gln-40 to Glu-45, Glu-96 to Glu-102, Asn-256 to Thr-266, Lys-311 to Ser-322.		AR089: 75, AR052: 35, AR060: 31, AR033: 29, AR053: 28, AR104: 20, AR061: 19, AR096: 16, AR055: 16, AR039: 14	1-28, 184-201, 157-173

L0803: 13, L0748: 12, L0752: 8, L0744: 7, H0124: 6, L0770: 6, H0733: 5, H0169: 5, H0674: 5, L0455: 5, L0766: 5, L0804: 5, L0805: 5, L0776: 5, L0740: 5, L0745: 5, L0750: 5, L0777: 5, L0809: 4, S0442: 3, H0032: 3, L0774: 3, L0742: 3, L0757: 3, L0759: 3, S0436: 3, S0114: 2, S0360: 2, S0222: 2, L0622: 2, H0545: 2, H0673: 2, L0598: 2, L0794: 2, L0775: 2, L0375: 2, L0651: 2, L0659: 2, L0526: 2, L0783: 2, L0528: 2, H0547: 2, S0126: 2, S0330: 2, S0380: 2, H0696: 2, S0188: 2, L0751: 2, L0747: 2, L0755: 2, L0605: 2, H0624: 1, H0265: 1, S0040: 1, S0218: 1, H0650: 1, H0341: 1, H0638: 1, H0580: 1, H0728: 1, H0734: 1, S0476: 1, S6014: 1, H0610: 1, H0486: 1, L0586: 1, T0060: 1, H0575: 1, T0082: 1, H0004: 1, H0581: 1, H0057: 1, H0014: 1, H0083: 1, H0188:

| 572 | HOEMM23 | 859190 | 582 | 131 - 496 | 1987 | Tyr-10 to Asp-15, Asp-64 to Gly-72, Gln-74 to Lys-85, Gly-110 to Arg-122. | AR096: 2, AR104: 2, AR055: 1, AR089: 1, AR060: 1, AR033: 0, AR061: 0, AR052: 0, S0126: 4, H0271: 1, H0164: 1, S0028: 1 and 1, H0687: 1, S0003: 1, H0328: 1, T0023: 1, L0055: 1, H0165: 1, S0364: 1, S0366: 1, S0036: 1, L0564: 1, H0494: 1, L0475: 1, S0016: 1, H0560: 1, S0294: 1, S0438: 1, S0440: 1, H0509: 1, H0131: 1, S0150: 1, H0641: 1, S0422: 1, S0002: 1, L0520: 1, L0371: 1, L0796: 1, L0637: 1, L0761: 1, L0646: 1, L0800: 1, L0771: 1, L0648: 1, L0521: 1, L0363: 1, L0376: 1, L0378: 1, L0653: 1, L0384: 1, L0530: 1, L0787: 1, L0788: 1, S0053: 1, S0148: 1, H0689: 1, H0659: 1, S0378: 1, S0152: 1, H0522: 1, H0704: 1, S0044: 1, H0478: 1, H0727: 1, S3014: 1, L0756: 1, L0731: 1, L0758: 1, S0031: 1, S0434: 1 and S0276: 1. | 15-41, 41-63, 86-109 |

| 573 | HTXPN78 | 859200 | 583 | 31 - 873 | 1988 | Thr-116 to Gly-122, Lys-142 to Pro-150, Pro-164 to Ala-172, Glu-184 to Asn-189. | S0260: 1. AR052: 4, AR055: 3, AR053: 3, AR060: 2, AR033: 2, AR089: 2, AR061: 2, AR096: 1, AR104: 1, AR039: 0 S0126: 3, H0658: 3, H0556: 2, H0576: 2, L0600: 2, H0265: 1, S0360: 1, H0592: 1, H0051: 1, H0031: 1, H0135: 1, H0652: 1, L0641: 1, L0803: 1, L0375: 1, L0666: 1, H0547: 1, S0031: 1 and S0026: 1. | | | 48-65, 121-137, 73-89 |
| 574 | HFPGR87 | 859201 | 584 | 775 - 1125 | 1989 | Glu-9 to Gly-14, Gln-75 to Val-81, Ser-94 to Gly-116. | AR033: 13, AR052: 6, AR104: 5, AR060: 4, AR055: 4, AR061: 4, AR053: 3, AR089: 3, AR096: 2, AR039: 1 L0748: 7, L0747: 6, L0805: 5, L0803: 4, L0776: 4, L0439: 4, L0757: 4, H0549: 3, L0794: 3, L0809: 3, L0750: 3, L0777: 3, H0624: 2, H0635: 2, H0012: 2, L0775: 2, L0744: 2, L0731: 2, S0276: 2, H0556: 1, S0114: 1, H0650: 1, H0255: 1, S0360: 1, L0394: | 22q13.1 | 103050, 103050, 124030, 124030, 138981, 182380, 188826, 190040, 190040, 190040 | 51-73 |

575	HE8PR67	859233	585	98 1402	1990		
					Pro-12 to Lys-33, Asn-41 to His-46, Pro-48 to Ser-58, Gly-71 to Asp-78, Ala-94 to Gly-102, Ser-133 to Ser-140, Arg-197 to Lys-202.	1, S0222: 1, H0441: 1, H0392: 1, H0333: 1, S0474: 1, H0052: 1, H0194: 1, H0235: 1, H0597: 1, H0231: 1, H0546: 1, H0150: 1, H0620: 1, H0328: 1, H0615: 1, H0674: 1, H0068: 1, H0135: 1, H0163: 1, L0497: 1, L0804: 1, L0661: 1, L0543: 1, L0791: 1, L5286: 1, H0144: 1, S0126: 1, H0696: 1, L0743: 1, L0749: 1, L0780: 1, L0752: 1, L0758: 1, S0031: 1, L0591: 1 and L0608: 1.	AR052: 8, AR055: 8, AR053: 6, AR096: 6, AR089: 5, AR060: 4, AR033: 4, AR039: 4, AR061: 3, AR104: 3 L0758: 4, S0358: 3, L0766: 3, H0038: 2, L0748: 2, L0754: 2, L0756: 2, L0759: 2, H0265: 1, H0223: 1, H0222: 1, H0159: 1, L0002: 1, S0116: 1, H0586: 1, T0040: 1, H0013: 1, H0052: 1, T0110: 1, L0157: 1, H0050: 1, H0256: 1, S0250: 1, S0364: 1, H0616:
							252-280, 319-342, 202-222, 157-173, 385-401, 174-190

425

| 576 | HDTDZ65 | 859250 | 586 | 35 - 2344 | 1991 | Leu-55 to Phe-61, Arg-105 to Cys-111, Leu-152 to Glu-158, Glu-174 to Leu-187, Tyr-213 to Pro-223, Ala-246 to Asp-256, Leu-274 to Cys-283, Glu-297 to Tyr-302, Pro-322 to Leu-327, Asp-333 to Val-343, Thr-375 to Pro-382, Asp-403 to Ser-415, Thr-490 to Lys-496, Pro-531 to Asp-541, Arg-545 to Gly-551, Asp-582 to Ile-588, Asn-683 to Thr-713. | AR089: 5, AR052: 2, AR060: 2, AR096: 2, AR055: 2, AR033: 1, AR039: 1, AR061: 1, AR104: 0, AR053: 0 S0192: 18, H0521: 7, L0659: 6, S0126: 6, L0744: 6, H0486: 5, L0666: 5, S0022: 4, L0438: 4, L0754: 4, S0194: 4, S0045: 3, L0662: 3, S0330: 3, L0758: 3, S0040: 2, H0661: 2, H0662: 2, S0132: 2, S0476: 2, H0392: 2, H0013: 2, H0575: 2, H0581: 2, S0250: 2, H0622: 2, H0553: 2, H0628: 2, H0591: 2, H0551: 2, H0623: 2, H0494: 2, S0002: 2, S0426: 2, L0771: 2, L0803: 2, L0527: 2, L0664: 2, L0665: 2, H0144: 2, S0027: 2, S0028: 2. | 1, H0264: 1, H0509: 1, H0641: 1, L0646: 1, L0773: 1, L0662: 1, L0776: 1, L0655: 1, L0659: 1, L0809: 1, L0666: 1, L0664: 1, S0126: 1, S0380: 1, H0521: 1, L0779: 1, L0593: 1, S0242: 1 and L0697: 1. | 727-762, 5-21, 556-572 |

S0206: 2, L0740: 2, L0751: 2, H0595: 2, L0596: 2, H0506: 2, H0170: 1, T0049: 1, S0212: 1, H0638: 1, S0420: 1, S0442: 1, S0376: 1, S0468: 1, S0046: 1, S0278: 1, H0369: 1, H0592: 1, H0586: 1, S0010: 1, H0705: 1, H0310: 1, H0046: 1, T0010: 1, H0375: 1, H0266: 1, H0687: 1, S0214: 1, H0039: 1, L0483: 1, H0030: 1, H0031: 1, H0032: 1, S0366: 1, H0598: 1, H0038: 1, H0380: 1, H0268: 1, H0413: 1, H0056: 1, S0440: 1, H0652: 1, S0142: 1, S0344: 1, L0770: 1, L0638: 1, L0646: 1, L0649: 1, L0381: 1, L0806: 1, L0657: 1, L0658: 1, L0518: 1, L0809: 1, L0789: 1, H0682: 1, S0332: 1, H0696: 1, S0404: 1, S0406: 1, H0555: 1, H0627: 1, S0037: 1, S3014: 1, L0747: 1, L0755: 1, L0757: 1, L0588: 1, L0591: 1, S0026: 1, H0653: 1, H0665: 1 and S0196: 1.

| 577 | HWAEV63 | 859588 | 587 | 93 - 440 | 1992 | Met-7 to Asp-22. | AR033: 5, AR096: 3, AR060: 3, AR052: 3, AR089: 3, AR053: 2, AR104: 1, AR061: 1, AR055: 1, AR039: 0 L0439: 6, L0659: 4, L0740: 4, L0752: 4, S0376: 3, L0731: 3, H0052: 2, L0471: 2, S0051: 2, H0428: 2, H0090: 2, L0803: 2, L0809: 2, H0423: 2, S0452: 2, H0624: 1, H0170: 1, H0663: 1, S0442: 1, S0045: 1, S0222: 1, H0331: 1, S0280: 1, L0021: 1, H0575: 1, H0004: 1, H0581: 1, H0457: 1, H0014: 1, S0388: 1, T0010: 1, H0083: 1, S6028: 1, S0318: 1, S0003: 1, H0688: 1, H0031: 1, H0553: 1, H0628: 1, L0055: 1, H0591: 1, H0038: 1, H0040: 1, H0268: 1, L0564: 1, S0210: 1, S0422: 1, L0598: 1, L0768: 1, L0794: 1, L0766: 1, L0774: 1, L0775: 1, L0518: 1, L0666: 1, L0664: 1, H0547: 1, H0659: 1, H0539: 1, S0380: 1, H0478: 1, H0479: 1, | 46-74, 77-98 |

| 578 | HOHAV17 | 859636 | 588 | 13 - 318 | 1993 | L0779: 1, L0777: 1, L0755: 1, L0592: 1, L0599: 1, S0194: 1, S0276: 1, H0543: 1, S0424: 1 and H0506: 1. AR052: 1, AR104: 1, AR089: 1, AR061: 1, AR055: 1, AR039: 0, AR033: 0, AR096: 0, AR060: 0, AR053: 0 and S0250: 1 and H0547: 1. | | 62-94 |
| 579 | HNTAW95 | 859688 | 589 | 198 - 875 | 1994 | AR053: 2, AR096: 1, AR055: 1, AR033: 1, AR061: 1, AR089: 0, AR060: 0, AR104: 0, AR052: 0 H0046: 20, H0529: 3, L0439: 3, H0624: 2, H0038: 2, H0547: 2, L0588: 2, H0556: 1, H0484: 1, H0450: 1, H0619: 1, H0549: 1, H0550: 1, H0497: 1, T0040: 1, H0013: 1, H0599: 1, H0052: 1, H0050: 1, H0012: 1, H0551: 1, H0264: 1, H0494: 1, H0509: 1, H0538: 1, L0654: 1, H0520: 1, H0519: 1, S0126: 1, S0152: 1, S0332: 1, S0013: 1, S0027: 1, L0740: 1, H0445: 1 | Cys-179 to Ser-189, Ala-216 to Tyr-223. | 143-176, 66-93, 22-50, 106-125 |

| 580 | HMCFL79 | 859704 | 590 | 1309 - 824 | 1995 | AR055: 11, AR053: 10, AR052: 8, AR096: 7, AR060: 7, AR089: 6, AR033: 6, AR061: 5, AR039: 5, AR104: 3 H0521: 7, L0748: 4, H0656: 3, H0586: 2, H0264: 2, L0740: 2, S0436: 2, H0542: 2, H0171: 1, T0002: 1, H0222: 1, S0040: 1, H0294: 1, S0134: 1, H0583: 1, S0212: 1, S0356: 1, S0045: 1, H0069: 1, H0318: 1, H0421: 1, H0052: 1, H0081: 1, H0050: 1, H0284: 1, H0428: 1, S0036: 1, H0551: 1, H0494: 1, S0144: 1, S0344: 1, L0807: 1, L0790: 1, H0547: 1, H0435: 1, H0539: 1, S0152: 1, S0028: 1, S0032: 1, L0750: 1, L0777: 1, L0759: 1, H0445: 1 and H0422: 1. 1, L0592: 1, L0593: 1, L0595: 1 and H0506: 1. | 33-70, 78-99, 7-24, 57-73, 117-133 |
| 581 | HNTCT36 | 859756 | 591 | 103 - 630 | 1996 | AR096: 5, AR089: 4, AR033: 4, AR060: 3, AR052: 1, AR061: 1, AR104: 0, AR053: 0 Met-1 to Lys-17, Asn-66 to Asn-95, Thr-100 to Tyr-106. | 153-169 |

| 582 | HTPDM61 | 859769 | 592 | 45 - 485 | 1997 | Pro-30 to Arg-35, Glu-41 to Glu-51, Ser-54 to Trp-62, Gly-69 to Trp-77. | AR033: 10, AR055: 10, AR052: 8, AR089: 7, AR060: 7, AR053: 7, AR061: 6, AR096: 5, AR104: 3, AR039: 1 L0766: 3, L0731: 3, S0051: 2, L0769: 2, L0662: 2, L0768: 2, L0747: 2, H0140: 1, H0656: 1, S0418: 1, S0444: 1, H0013: 1, L0021: 1, H0046: 1, H0439: 1, H0615: 1, H0039: 1, H0551: 1, S0438: 1, S0144: 1, L0763: 1, L0372: 1, L0794: 1, L0805: 1, L0783: 1, L0809: 1, L0647: 1, L0788: 1, L0792: 1, L0663: 1, L0664: 1, H0691: 1, H0593: 1, L0750: 1 and L0758: 1. H0519: 2, H0156: 1, L0666: 1, L0665: 1, H0520: 1, L0758: 1 and L0759: 1. | | | 74-97, 3-19 |
| 583 | HTFOH87 | 859792 | 593 | 389 - 745 | 1998 | Pro-10 to Arg-15. | AR039: 1, AR096: 1, AR033: 1, AR061: 1, AR060: 0, AR089: 0, AR052: 0, AR055: 0, AR104: 0 L0769: 5, S0045: 2, | 22q13.2-q13.31 | 188826, 250100, 250800, 250800 | 55-81, 36-52, 84-100 |

| 584 | IIWBDQ32 | 859796 | 594 | 284 - 760 | 1999 | Leu-10 to Ser-20, Ala-49 to Gly-55, Ala-69 to Ala-74. | L0773: 2, L0775: 2, L0783: 2, L0809: 2, H0657: 1, H0341: 1, H0254: 1, H0255: 1, S0360: 1, H0208: 1, H0550: 1, H0052: 1, H0123: 1, H0673: 1, H0412: 1, H0413: 1, L0640: 1, L0763: 1, L0768: 1, L0794: 1, L0661: 1, L0665: 1, H0691: 1, H0690: 1, S0378: 1, H0521: 1, L0750: 1, L0777: 1, L0759: 1, S0436: 1, L0366: 1, S0242: 1 and S0424: 1. AR096: 3, AR052: 3, AR053: 2, AR089: 2, AR033: 1, AR061: 1, AR060: 1, AR055: 1, AR104: 1, AR039: 0 L0745: 7, H0486: 4, L0764: 3, L0774: 3, L0779: 3, H0543: 3, H0130: 2, L0768: 2, L0766: 2, L0803: 2, L0542: 2, H0666: 2, H0672: 2, L0746: 2, L0755: 2, L0758: 2, L0596: 2, T0049: 1, H0657: 1, H0662: 1, S0358: 1, S0360: 1, H0580: 1, S0046: 1, S0222: 1, H0586: 1, H0013: 1, | 99-116 |

585	HCHMO53	859797	595	199 - 660	2000	Arg-7 to Ala-14, Phe-113 to Arg-118, Pro-124 to His-129, Glu-145 to Ala-153.	L0021: 1, H0251: 1, H0266: 1, S0003: 1, S0214: 1, H0428: 1, H0535: 1, H0644: 1, H0674: 1, H0598: 1, H0038: 1, H0616: 1, H0268: 1, H0509: 1, S0002: 1, L0371: 1, L0770: 1, L0637: 1, L0372: 1, L0662: 1, L0550: 1, L0775: 1, L0375: 1, L0523: 1, L0526: 1, L0809: 1, L0663: 1, S0126: 1, H0435: 1, H0670: 1, H0539: 1, S0380: 1, H0522: 1, S0044: 1, H0345: 1, L0439: 1, L0740: 1, L0754: 1, L0750: 1, L0759: 1, H0445: 1 and L0603: 1.	AR060: 16, AR052: 8, AR053: 7, AR033: 6, AR104: 6, AR089: 6, AR039: 5, AR061: 5, AR096: 4, AR055: 2 L0776: 8, L0731: 8, S0438: 6, L0752: 6, H0677: 6, S0410: 5, S0440: 5, L0764: 5, L0749: 5, T0049: 4, S0132: 4, L0766: 4, H0648: 4, L0759: 4, H0355: 3, L0519: 3, H0684: 3, L0748: 3, L0747: 3, L0757:	86-102, 54-70

3, H0449: 2, S0358: 2,
S0376: 2, S0444: 2, H0392:
2, T0006: 2, H0477: 2,
L0775: 2, L0806: 2, S0152:
2, H0436: 2, L0751: 2,
L0750: 2, L0758: 2, S0436:
2, H0423: 2, H0624: 1,
H0556: 1, H0157: 1, H0295:
1, H0294: 1, S0114: 1,
H0657: 1, H0656: 1, H0484:
1, H0483: 1, S0356: 1,
S0360: 1, S0408: 1, H0637:
1, S0007: 1, S0045: 1,
H0391: 1, H0586: 1, H0497:
1, H0331: 1, H0485: 1,
T0109: 1, T0048: 1, S0474:
1, L0040: 1, H0046: 1,
S0051: 1, H0083: 1, H0606:
1, H0169: 1, H0316: 1,
H0268: 1, H0412: 1, H0413:
1, T0042: 1, S0464: 1,
H0633: 1, L0763: 1, L0770:
1, L0769: 1, L0638: 1,
L0771: 1, L0648: 1, L5564:
1, L0381: 1, L0774: 1,
L0378: 1, L0655: 1, L0659:
1, L0809: 1, L0788: 1,
L0532: 1, H0682: 1, II0659:
1, S0328: 1, S0380: 1,
S0350: 1, H0696: 1, S0406:

| 586 | HNHMC08 | 859848 | 596 | 10 - 1251 | 2001 | | 1, H0478: 1, H0479: 1, L0753: 1, S0434: 1, S0394: 1, L0592: 1, L0608: 1, H0668: 1, S0026: 1 and H0422: 1. AR055: 3, AR053: 2, AR060: 2, AR033: 2, AR061: 1, AR052: 1, AR096: 1, AR089: 1, AR104: 0, AR039: 0 S0278: 2, S0218: 1, S0045: 1 and S0216: 1. | | | 383-406, 124-149, 8-35, 281-302, 349-368, 151-171, 85-104, 44-62, 227-245, 324-340, 29-45, 189-205 |
| 587 | HDPFH27 | 859875 | 597 | 95 - 1933 | 2002 | Ser 27 to Pro 35, Thr-87 to Ile-99, Pro-106 to Lys-112, Glu-119 to Ser-130, Ser-182 to Val-187, Lys-194 to Tyr-204, Lys-295 to Val-300, Lys-384 to Glu-390, Thr-512 to Thr-526, Ser-530 to Glu-537, Gln-556 to Lys-562, Lys-593 to Leu-601. | AR060: 20, AR039: 19, AR055: 13, AR033: 13, AR053: 10, AR052: 9, AR089: 8, AR096: 7, AR104: 7, AR061: 4 H0521: 2 | Xq25-q26 | 300037, 300076, 300123, 301201, 301845, 301900, 304340, 307150, 307700, 308000, 308000, 308230 | 65-84, 302-318, 571-587, 130-146, 366-382, 492-508 |

| 588 | HE9QX59 | 85988-4 | 598 | 97 - 978 | 2003 | Ser-49 to Ser-66, Asp-152 to Lys-160, Gly-186 to Asn-192, Arg-200 to Ser-205, Pro-223 to His-229, Gly-240 to Thr-250. | AR061: 14, AR052: 5, AR055: 3, AR033: 2, AR089: 2, AR060: 1, AR053: 1, AR096: 0, AR039: 0, AR104: 0 H0144: 1 and L0755: 1. | 17q22-q24 | 308240, 309555, 310490, 312000, 313350, 313850 | 109270, 109270, 109270, 109270, 109270, 115660, 120150, 120150, 120150, 139250, 148065, 148080, 148500, 150200, 154275, 162100, 170500, 170500, 170500, 171190, 176960, 182452, 185800, 221820, | 269-286, 163-179, 103-119 |

589	HNFBU66	599	953 - 537	2004	Thr 26 to Lys-32, Asn-98 to Pro-105, Arg-133 to Thr-139.	AR089: 15, AR096: 15, AR052: 14, AR053: 12, AR060: 12, AR055: 11, AR104: 11, AR039: 10, AR033: 9, AR061: 6 H0171: 2, H0624: 1, S0222: 1, H0271: 1, S0390: 1, S0028: 1, L0786: 1 and S0031: 1.	230200, 249000, 253250, 600525, 600852, 601844	71-88
590	HLDQW16	600	906 - 1214	2005	Thr-33 to Thr-40, Lys-86 to Lys-103.	AR039: 9, AR096: 8, AR053: 8, AR089: 7, AR052: 6, AR033: 5, AR055: 4, AR104: 4, AR060: 4, AR061: 2 L0766: 6, L0770: 3, H0632: 2, H0013: 2, L0483: 2, L0775: 2, L0663: 2, H0521: 2, L0759: 2, L0362: 2, S0354: 1, S0358: 1, H0486: 1, H0003: 1, H0318: 1, H0544: 1, H0457: 1, H0510: 1, H0428: 1, L0371: 1, L0521: 1, L0512: 1,		51-68, 4-21

| 591 | HTLGS48 | 859918 | 601 | 726 - 1436 | 2006 | Met-1 to Trp-10, Gln-12 to Thr-37. | L0783: 1, L0664: 1, H0593: 1, H0365: 1, H0659: 1, H0658: 1, H0672: 1, S0378: 1, L0756: 1, L0758: 1, H0445: 1, L0480: 1 and L0599: 1. | AR055: 8, AR033: 6, AR060: 5, AR089: 5, AR104: 4, AR039: 4, AR052: 4, AR053: 4, AR061: 4, AR096: 4 H0618: 7, L0747: 6, L0439: 5, H0617: 3, L0766: 3, L0438: 3, H0580: 2, H0328: 2, L0783: 2, H0694: 2, S0434: 2, H0717: 1, S0442: 1, S0360: 1, S0408: 1, H0208: 1, S0045: 1, H0261: 1, H0550: 1, H0586: 1, H0333: 1, H0559: 1, H0486: 1, H0253: 1, T0048: 1, H0546: 1, T0003: 1, H0024: 1, H0373: 1, H0399: 1, H0292: 1, H0135: 1, L5565: 1, L0761: 1, L0630: 1, L0767: 1, L0375: 1, L0653: 1, L0655: 1, L0807: 1, L0787: 1, H0547: 1, H0672: 1, H0576: 1, L0748: 1, L0786: 1, L0758: 1, | 43-64, 199-218, 119-135 |

592	HNHDY54	859973	602	235 - 546	2007	AR055: 9, AR060: 6, AR033: 5, AR061: 5, AR052: 4, AR039: 3, AR089: 3, AR096: 3, AR053: 3, AR104: 0, S0053: 2	L0759: 1, S0011: 1 and H0423: 1.	70-96
593	HAPPS75	860023	603	1221 - 190	2008	Arg-55 to Gly-61.	AR039: 38, AR033: 23, AR096: 21, AR104: 20, AR052: 18, AR089: 17, AR053: 15, AR061: 14, AR055: 14, AR060: 13 H0581: 3, H0522: 3, L0747: 3, H0662: 2, H0553: 2, H0641: 2, S0053: 2, H0689: 2, H0521: 2, L0748: 2, L0731: 2, L0759: 2, H0543: 2, H0294: 1, H0657: 1, H0656: 1, S0418: 1, S0358: 1, H0208: 1, H0619: 1, H0586: 1, H0587: 1, H0427: 1, H0599: 1, H0575: 1, H0052: 1, H0545: 1, H0009: 1, H0081: 1, H0510: 1, H0266: 1, H0212: 1, H0211: 1, H0090: 1, H0100: 1, T0042: 1, H0494: 1, H0646: 1, L0770: 1, L0659:	255-271, 107-123

594	IIWLEL47	860167	604	222 - 566	2009	Met-1 to Arg-6, Pro-24 to Ile-30.	l, H0519: 1, S0037: 1, L0741: 1, L0750: 1, L0777: 1, H0445: 1, L0596: 1 and H0542: 1. AR096: 1, AR055: 1, AR104: 1, AR033: 1, AR039: 0, AR052: 0, AR053: 0 S0354: 1 and S0428: 1.			88-105, 35-51
595	HNGJG75	860381	605	183 - 662	2010	Ser-13 to His-18, Phe-90 to Asp-100, Ser-118 to Thr-143.	AR055: 6, AR060: 4, AR052: 3, AR089: 3, AR033: 3, AR061: 3, AR053: 2, AR104: 2, AR039: 2, AR096: 1 S0052: 1			36-56
596	HKAJU40	860461	606	89 - 676	2011	Gln-96 to Glu-102, Asn-108 to Val-113, Gly-154 to Tyr-159.	AR052: 9, AR061: 8, AR053: 7, AR060: 6, AR039: 5, AR033: 5, AR096: 5, AR055: 5, AR089: 4, AR104: 4 H0038: 3, H0265: 2, H0341: 2, H0543: 2, H0556: 1, S0116: 1, S0212: 1, H0664: 1, S0376: 1, H0393: 1, H0370: 1, H0592: 1, H0013: 1, L2250: 1, H0544: 1, H0046: 1, H0012: 1, H0083: 1, S0214: 1, H0031:	17p13.1	191170, 191170	174-190, 7-23, 70-86

| 597 | HYABL83 | 860565 | 607 | 1473 - 1012 | 2012 | Val-43 to Gly-48, Leu-118 to Leu-128. | 1, S0364: 1, H0494: 1, S0440: 1, H0509: 1, H0633: 1, S0144: 1, H0529: 1, L0372: 1, L0766: 1, S0126: 1, L0602: 1, S0152: 1, H0522: 1, H0576: 1, L0779: 1, H0665: 1 and H0216: 1.

AR089: 3, AR033: 2, AR096: 2, AR039: 2, AR060: 2, AR061: 1, AR055: 0, AR053: 0, AR052: 0, AR104: 0
L0754: 5, L0744: 4, L0659: 3, L0439: 3, L0747: 3, L0777: 3, S6024: 2, H0661: 2, H0645: 2, L0794: 2, L0766: 2, L0803: 2, H0144: 2, L0748: 2, L0759: 2, L0605: 2, H0556: 1, H0583: 1, S0212: 1, H0663: 1, S0354: 1, H0619: 1, S0222: 1, H0441: 1, H0586: 1, H0333: 1, L0021: 1, H0575: 1, H0590: 1, H0318: 1, H0050: 1, L0163: 1, H0510: 1, H0266: 1, H0622: 1, H0030: 1, H0644: 1, H0032: 1, H0135: 1, H0551: 1, T0041: 1, H0509: 1, S0150: 1, H0647: 1, H0646: | | | 57-86, 20-43, 127-145 |

598	HKADF82	860617	608	234 - 536	2013	Glu-6 to Glu-16.		72-89
						1, S0344: 1, S0426: 1, L0598: 1, H0529: 1, L0762: 1, L0796: 1, L0372: 1, L0804: 1, L0774: 1, L0805: 1, L0656: 1, L0809: 1, L0666: 1, L0438: 1, H0547: 1, H0519: 1, H0683: 1, H0435: 1, H0659: 1, H0660: 1, H0696: 1, S0028: 1, L0742: 1, L0745: 1, L0746: 1, L0752: 1, L0757: 1, L0480: 1, L0591: 1, H0653: 1, S0192: 1, H0423: 1 and H0422: 1.	AR060: 2, AR053: 1, AR061: 1, AR033: 0, AR055: 0, AR096: 0, AR039: 0 H0144: 3, S0007: 2, H0550: 2, H0494: 2, L0794: 2, L0633: 2, L0666: 2, L0665: 2, S0330: 2, H0478: 2, S0040: 1, H0661: 1, H0637: 1, H0549: 1, H0431: 1, S0280: 1, H0575: 1, H0051: 1, H0355: 1, H0594: 1, H0288: 1, L0483: 1, H0644: 1, H0038: 1, H0616: 1, H0509: 1, H0517: 1, L0662: 1, L0791: 1, L0663:	

599	HNGEK43	860646	29 - 430	2014	Pro-16 to Cys-28, Val-79 to Gly-84.	1, L0664: 1, H0703: 1, L0438: 1, H0547: 1, H0711: 1, H0518: 1, S0044: 1, H0214: 1, L0439: 1, L0751: 1, L0731: 1 and H0423: 1. AR061: 2, AR055: 2, AR089: 1, AR096: 1, AR033: 1, AR053: 1, AR060: 1, AR039: 0, AR104: 0 S0052: 2 and H0393: 1.	91-107
600	HTAJS93	860849	36 - 1160	2015	Tyr-42 to Gly-48, Ser-62 to Arg-83, Asp-137 to Pro-148, Ser-201 to Arg-207.	AR096: 31, AR089: 24, AR033: 14, AR060: 14, AR052: 13, AR053: 13, AR039: 13, AR055: 10, AR061: 6, AR104: 5 L0731: 27, L0662: 10, S0360: 8, L0666: 8, L0659: 7, L0758: 7, S0358: 6, S0003: 6, L0803: 6, L0748: 6, L0747: 6, L0779: 6, L0752: 6, S0132: 5, L0664: 5, L0744: 5, L0754: 5, S0040: 4, H0662: 4, H0411: 4, H0251: 4, H0597: 4, L0471: 4, H0024: 4, S0022: 4, L0809: 4, L0663: 4, L0439: 4, L0749: 4, L0756: 4, L0362: 4, L0002: 3,	344-371, 169-200, 313-340, 275-302, 15-42, 146-167, 119-135, 1-17, 210-227, 237-253

H0600: 3, H0599: 3, S0250: 3, H0039: 3, H0622: 3, H0616: 3, L0805: 3, S0126: 3, H0521: 3, L0759: 3, H0170: 2, S0212: 2, H0255: 2, S0418: 2, L0717: 2, S0222: 2, H0592: 2, H0486: 2, H0590: 2, H0196: 2, H0231: 2, H0373: 2, L0483: 2, L0564: 2, S0002: 2, L0772: 2, L0641: 2, L0764: 2, L0806: 2, L0776: 2, L0384: 2, H0144: 2, S0044: 2, H0555: 2, H0595: 2, L0592: 2, L0599: 2, L0603: 2, S0194: 2, H0624: 1, S0001: 1, H0663: 1, H0664: 1, H0638: 1, S0376: 1, H0637: 1, H0580: 1, H0393: 1, H0437: 1, H0453: 1, H0370: 1, H0586: 1, H0331: 1, H0574: 1, H0559: 1, H0485: 1, H0013: 1, H0635: 1, H0427: 1, H0118: 1, H0575: 1, H0036: 1, H0253: 1, L0105: 1, H0318: 1, H0234: 1, H0546: 1, H0050: 1, H0105: 1, S0388: 1, H0271: 1, S0318: 1, H0252: 1, H0428: 1, H0553: 1,

| 601 | HE9PJ48 | 861223 | 611 | 131 - 1549 | 2016 | Thr-9 to Asn-16, Thr-59 to Trp-70, Pro-92 to His-97, Thr-345 to Gly-351, Tyr-409 to Pro-426, Arg-433 to Val-466. | H0644: 1, H0673: 1, S0364: 1, S0366: 1, H0591: 1, H0634: 1, H0412: 1, H0413: 1, H0100: 1, S0112: 1, T0041: 1, H0494: 1, H0641: 1, H0646: 1, S0208: 1, L0763: 1, L0372: 1, L0771: 1, L0648: 1, L0768: 1, L0364: 1, L0794: 1, L0774: 1, L0379: 1, L0512: 1, L0647: 1, L0788: 1, L0665: 1, S0374: 1, L0438: 1, H0684: 1, H0672: 1, S0330: 1, S0380: 1, S0152: 1, H0579: 1, H0522: 1, S0013: 1, S0146: 1, H0631: 1, S0432: 1, S0037: 1, L0745: 1, L0750: 1, L0777: 1, L0757: 1, H0444: 1, L0596: 1, L0597: 1, L0591: 1, S0011: 1, S0026: 1, S0192: 1, H0422: 1 and H0008: 1. AR033: 4, AR061: 4, AR060: 2, AR104: 2, AR089: 2, AR053: 1, AR055: 1, AR039: 0, AR052: 0 H0556: 6, L0438: 6, L0758: 6, L0766: 5, L0666: 5, L0747: 5, L0805: 4, | 66-93, 98-125, 374-405, 351-371, 41-58, 217-235, 166-182, 286-302, 318- |

334, 187-203

L0748: 4, L0749: 4, L0779: 4, H0543: 4, H0341: 3, H0641: 3, L0769: 3, L0776: 3, L0664: 3, H0547: 3, L0439: 3, L0755: 3, H0638: 2, S0418: 2, T0039: 2, H0123: 2, S0003: 2, H0553: 2, H0068: 2, H0135: 2, H0551: 2, S0144: 2, S0002: 2, L0626: 2, L0794: 2, L0803: 2, L0659: 2, H0144: 2, S0126: 2, H0435: 2, L0777: 2, L0731: 2, L0599: 2, H0542: 2, H0395: 1, H0265: 1, S6024: 1, T0049: 1, H0657: 1, I0419: 1, S0420: 1, S0376: 1, H0431: 1, H0587: 1, H0486: 1, H0013: 1, H0156: 1, H0599: 1, H0575: 1, S0010: 1, S0049: 1, H0196: 1, H0052: 1, H0309: 1, H0545: 1, H0041: 1, H0050: 1, L0163: 1, H0039: 1, H0213: 1, H0644: 1, H0617: 1, H0673: 1, H0169: 1, H0674: 1, H0038: 1, H0040: 1, H0063: 1, H0087: 1, H0379: 1, H0412: 1, H0100: 1, L0351: 1, T0041: 1, L0475: 1,

602	HPRBC95	861227	612	524 - 853	2017				62-80, 20-39
					Gly-88 to Ser-94, Glu-98 to Tyr-110.	S0440: 1, S0150: 1, H0633: 1, S0210: 1, H0529: 1, L0520: 1, L0763: 1, L0770: 1, L0761: 1, L0772: 1, L0646: 1, L0641: 1, L0764: 1, L0521: 1, L0662: 1, L0775: 1, L0806: 1, L0657: 1, L0783: 1, L0792: 1, L0663: 1, L0665: 1, L0352: 1, H0689: 1, H0684: 1, H0648: 1, H0521: 1, H0522: 1, H0704: 1, S0406: 1, H0187: 1, H0576: 1, S0037: 1, S0028: 1, L0740: 1, L0751: 1, L0752: 1, L0757: 1, L0590: 1, L0485: 1, L0595: 1, H0665: 1, H0136: 1, H0216: 1 and S0424: 1.	AR055: 11, AR053: 9, AR089: 7, AR060: 6, AR104: 6, AR052: 5, AR096: 5, AR053: 5, AR061: 5, AR039: 4, L0439: 4, L0754: 3, L0758: 3, L0809: 2, L0666: 2, L0438: 2, L0757: 2, S0358: 1, S0376: 1, S0360: 1, H0730: 1, H0351: 1, H0411: 1, S0222: 1, T0039: 1, H0581: 1, H0545: 1,	

603	HDPUM54	861242	613	14 - 466	2018	Thr-89 to Gly-97, Ser-100 to Thr-108.	16q12-q13	114835, 132700, 172490, 600968	50-75, 31-52
						H0050: 1, S0318: 1, S0334: 1, H0032: 1, L0351: 1, L0763: 1, L0770: 1, L0774: 1, L0775: 1, L0659: 1, L0789: 1, H0365: 1, L0779: 1, L0777: 1, L0755: 1, H0444: 1, S0436: 1 and S0196: 1. AR096: 3, AR039: 3, AR053: 1, AR052: 1, AR033: 1, AR061: 1, AR089: 1, AR060: 0, AR055: 0 L0754: 12, L0748: 11, H0521: 9, L0770: 5, L0740: 5, L0747: 5, L0756: 5, L0766: 4, H0591: 3, S0002: 3, L0744: 3, H0457: 2, H0428: 2, H0090: 2, L0523: 2, L0654: 2, L0659: 2, L0438: 2, H0435: 2, L0439: 2, H0445: 2, L0599: 2, S0026: 2, H0542: 2, H0556: 1, H0450: 1, S0420: 1, H0586: 1, H0013: 1, S0280: 1, H0421: 1, H0596: 1, H0046: 1, H0123: 1, H0083: 1, H0266: 1, H0553: 1, H0628: 1, L0055: 1, H0316: 1, S0426: 1, L0761: 1,			

| 604 | HIIFLL92 | 861294 | 614 | 717 - 1103 | 2019 | Ala-24 to Arg-29, Arg-82 to Gln-89. | AR089: 8, AR055: 7, AR060: 6, AR052: 6, AR033: 6, AR061: 5, AR096: 5, AR053: 4, AR039: 3, AR104: 3, L0779: 9, L0483: 6, L0748: 6, H0556: 5, H0264: 5, L0766: 5, L0740: 5, L0750: 5, L0769: 4, L0659: 4, L0663: 4, L0754: 4, L0758: 4, L0593: 4, S0114: 3, H0656: 3, L0717: 3, H0622: 3, H0673: 3, H0436: 3, L0747: 3, L0777: 3, L0731: 3, H0445: 3, L0596: 3, L0718: 3, H0402: 2, S0442: 2, H0619: 2, H0393: 2, S0280: 2, H0081: 2, H0050: 2, H0024: 2, H0271: 2, H0135: 2, L0637: 2, L0794: 2, L0561: 2, L0768: 2, L0771: 1, L0768: 1, L0803: 1, L0774: 1, L0776: 1, L0655: 1, L0790: 1, L0792: 1, L0666: 1, H0144: 1, H0670: 1, H0518: 1, H0579: 1, L0749: 1, L0779: 1, L0755: 1, L0758: 1, L0759: 1, L0596: 1, S0192: 1, S0194: 1 and S0276: 1. | 95-112, 38-54 |

449

2, L0655: 2, L0783: 2, L0792: 2, H0144: 2, H0547: 2, S0330: 2, S0037: 2, L0749: 2, L0591: 2, L0608: 2, H0422: 2, H0506: 2, L0600: 2, H0170: 1, H0686: 1, H0713: 1, S0402: 1, H0295: 1, H0583: 1, H0650: 1, H0657: 1, H0341: 1, S0298: 1, S0212: 1, S0282: 1, H0255: 1, H0663: 1, H0662: 1, S0358: 1, S0376: 1, S0046: 1, H0549: 1, H0550: 1, S0222: 1, H0442: 1, H0586: 1, H0333: 1, H0559: 1, L0623: 1, T0109: 1, H0635: 1, L0021: 1, H0575: 1, H0590: 1, H0581: 1, H0194: 1, H0251: 1, H0309: 1, H0545: 1, I0009: 1, L0471: 1, H0620: 1, H0057: 1, H0051: 1, H0083: 1, H0355: 1, H0594: 1, S0318: 1, H0687: 1, S0250: 1, H0553: 1, H0644: 1, L0142: 1, H0674: 1, S0364: 1, I0124: 1, H0087: 1, H0100: 1, T0042: 1, H0494: 1, H0625: 1, S0144: 1, S0426: 1, L0763: 1, L0770:

605	HMCHK65	861307	615	51 - 563	2020	1, L0761: 1, L0764: 1, L0662: 1, L0375: 1, L0806: 1, L0776: 1, L0518: 1, L0809: 1, L0788: 1, L0790: 1, L0666: 1, L0665: 1, S0052: 1, S0374: 1, L0438: 1, H0519: 1, H0593: 1, H0689: 1, H0659: 1, H0660: 1, H0651: 1, S0328: 1, H0539: 1, H0518: 1, S0152: 1, S0044: 1, H0576: 1, S0432: 1, H0345: 1, S3012: 1, S0390: 1, S3014: 1, S0027: 1, L0744: 1, L0780: 1, L0759: 1, L0589: 1, L0599: 1, H0667: 1, S0276: 1, H0543: 1, H0423: 1, S0458: 1, UNKWN: 1 and H0352: 1. AR053: 1, AR060: 1, AR104: 1, AR089: 1, AR055: 1, AR033: 0, AR061: 0, AR096: 0, AR039: 0, AR052: 0 L0766: 6, L0748: 6, L0740: 6, L0776: 4, H0521: 3, S0358: 2, H0266: 2, S0003: 2, S0344: 2, L0638: 2, L0805: 2, L0438: 2, S0380: 2, L0754: 2, L0747:	118-139, 151-167, 93-110, 63-79, 35-51

606	HAIDK89	861328	616	1422 - 2093	2021		
					Ser-43 to Ala-48, Ser-72 to Leu-78, Ala-100 to Ala-107, Ser-109 to Ile-115, Arg-166 to Asn-171.	AR033: 4, AR060: 3, AR096: 3, AR089: 2, AR039: 1, AR053: 1, AR104: 1, AR061: 1, AR055: 1, AR052: 0 L0438: 7, L0740: 4, H0416: 3, L0803: 3, L0777: 3, S0005: 2, H0544: 2, H0271: 2, H0090: 2, H0038: 2, H0551: 2, S0440: 2, L0766: 2, L0809: 2, H0436: 2, L0748: 2, L0439: 2, L0754: 2, L0758: 2, L0366: 2, H0265: 1, H0556: 1, H0583: 1, H0656: 1, H0341: 2, L0752: 2, L0755: 2, L0362: 2, H0624: 1, L0005: 1, H0580: 1, S0045: 1, S0046: 1, H0575: 1, S0010: 1, H0553: 1, H0269: 1, T0042: 1, S0150: 1, L0369: 1, L0770: 1, L0761: 1, L0794: 1, L0656: 1, L0787: 1, L0789: 1, L0665: 1, H0670: 1, H0660: 1, S0152: 1, L0439: 1, L0749: 1, L0779: 1, L0777: 1, L0759: 1, H0445: 1, H0343: 1, L0591: 1, S0192: 1 and H0543: 1.	186-223, 171-188

452

607	HTOHL88	861361	617	1389 - 478	2022	1, S0360: 1, S0408: 1, S0132: 1, S0476: 1, H0550: 1, S0222: 1, H0632: 1, H0492: 1, H0013: 1, L0021: 1, H0599: 1, S0049: 1, H0123: 1, H0375: 1, H0266: 1, H0622: 1, H0553: 1, H0383: 1, H0135: 1, H0040: 1, H0616: 1, H0087: 1, S0426: 1, L0769: 1, L0641: 1, L0644: 1, L0771: 1, L0773: 1, L0662: 1, L0768: 1, L0655: 1, L0665: 1, H0682: 1, H0696: 1, H0478: 1, L0749: 1, L0780: 1, L0759: 1 and H0422: 1. AR055: 9, AR033: 6, AR060: 5, AR061: 5, AR052: 4, AR089: 3, AR096: 3, AR053: 2, AR104: 1, AR039: 0 L0603: 4, H0031: 3, S0010: 2, T0010: 2, L0438: 2, H0038: 1, H0616: 1, H0264: 1, S0426: 1, H0539: 1 and L0439: 1.	Ser-25 to Gly-48, Phe-83 to Asp-91, Pro-110 to His-123, Lys-134 to Thr-139.	7q33	180105, 222800	257-287, 173-200, 220-241, 88-108, 52-70, 202-218, 1-17, 138-154
608	HMEKU54	861611	618	215 - 586	2023	AR089: 8, AR055: 6, AR060: 6, AR052: 4, AR061: 4, AR096: 3,				56-83, 86-104

AR033: 3, AR053: 3,
AR039: 1, AR104: 0
L0769: 7, L0754: 7,
H0657: 4, L0764: 4, L0751:
4, S0408: 3, S0222: 3,
H0327: 3, H0046: 3, H0056:
3, L0756: 3, L0752: 3,
S0282: 2, S0356: 2, S0444:
2, H0580: 2, H0250: 2,
H0622: 2, H0625: 2, L0803:
2, L0666: 2, H0648: 2,
H0672: 2, S0380: 2, S0146:
2, L0745: 2, L0747: 2,
L0777: 2, L0731: 2, L0600:
2, H0556: 1, H0740: 1,
H0305: 1, H0125: 1, S0410:
1, H0637: 1, S0476: 1,
H0393: 1, H0586: 1, H0643:
1, H0486: 1, H0013: 1,
H0635: 1, H0599: 1, H0575:
1, S0346: 1, H0318: 1,
S0474: 1, H0052: 1, H0024:
1, H0266: 1, H0271: 1,
H0188: 1, H0286: 1, H0615:
1, H0124: 1, H0135: 1,
H0634: 1, H0264: 1, T0042:
1, H0132: 1, H0641: 1,
H0652: 1, S0422: 1, L0639:
1, L0771: 1, L0773: 1,
L0662: 1, L0766: 1, L0774:

| 609 | HOQBR51 | 861620 | 619 | 613 - 1017 | 2024 | Gly-35 to Arg-41, Lys-51 to Phe-62, Pro-89 to Gln-94. | 1, L0776: 1, L0655: 1, L0659: 1, L0809: 1, L0367: 1, H0547: 1, H0670: 1, H0521: 1, H0696: 1, S0404: 1, S0406: 1, L0748: 1, L0740: 1, L0749: 1, L0779: 1, L0755: 1, L0759: 1, S0434: 1, S0026: 1, H0653: 1, H0667: 1, S0242: 1, S0412: 1, H0506: 1 and : 1. AR039: 51, AR104: 25, AR033: 23, AR096: 17, AR055: 17, AR053: 14, AR089: 14, AR052: 13, AR060: 12, AR061: 8 L0592: 3, H0592: 2, L0769: 2, L0657: 2, L0742: 2, L0749: 2, L0731: 2, L0758: 2, L0759: 2, S0010: 1, H0150: 1, H0009: 1, H0290: 1, H0644: 1, S0038: 1, H0494: 1, H0633: 1, L0771: 1, L0775: 1, L0776: 1, L0636: 1, L0809: 1, L0777: 1 and L0356: 1. | 105-131 |
| 610 | HAMGP34 | 861668 | 620 | 32 - 1135 | 2025 | Tyr-132 to Tyr-140, Cys-143 to Ser-154, Gly-252 to Thr-259, Glu-296 to Ala-302, | AR096: 1, AR089: 1, AR060: 1, AR033: 1, AR055: 1, AR039: 1, AR061: 1, AR104: 0, | 22-57, 59-89, 204-231, 1-20, 326-342 |

611	HHELG22	861683	621	184-918	2026		
						Gln-311 to His-326, Pro-361 to Leu-368.	AR052: 0, AR053: 0, S0474: 22, H0556: 3, H0012: 3, H0521: 3, L0777: 3, H0638: 2, S0344: 2, L0769: 2, L0766: 2, L0803: 2, L0774: 2, L0375: 2, L0809: 2, L0748: 2, L0745: 2, L0747: 2, L0756: 2, L0779: 2, L0731: 2, H0484: 1, S0420: 1, H0722: 1, H0550: 1, H0592: 1, H0318: 1, H0081: 1, H0620: 1, H0673: 1, H0674: 1, H0560: 1, L0770: 1, L0638: 1, L0764: 1, L0804: 1, L0775: 1, L0655: 1, L0493: 1, L0659: 1, L0783: 1, L4501: 1, L0664: 1, L0438: 1, H0547: 1, S0328: 1, H0518: 1, L0746: 1, L0749: 1, H0445: 1, S0436: 1 and H0542: 1.
						Arg-8 to Val-14, Tyr-25 to Arg-32, Cys-38 to Trp-44, His-70 to Ser-75, Glu-100 to Glu-106, Gly-117 to His-127, Gln-130 to Ser-136, Ser-167 to Ala-172,	AR104: 28, AR033: 17, AR089: 11, AR060: 10, AR096: 10, AR053: 9, AR052: 7, AR039: 7, AR055: 3, AR061: 2, L0731: 11, L0439: 10, L0752: 6, L0779: 5, H0046: 4, H0494: 4, L0770: 4,
							78-94, 46-62

Pro-184 to Ile-197, Glu-201 to Ser-209, Thr-215 to Val-222, Arg-228 to Glu-245.

L0766: 4, L0774: 4, S0010: 3, S0036: 3, L0764: 3, L0771: 3, L0803: 3, L0657: 3, L0748: 3, L0759: 3, H0542: 3, H0657: 2, S0360: 2, H0009: 2, H0562: 2, H0050: 2, L0363: 2, L0768: 2, L0550: 2, L0776: 2, L0655: 2, L0659: 2, H0648: 2, L0740: 2, L0754: 2, L0756: 2, L0758: 2, L0588: 2, H0136: 2, H0265: 1, H0686: 1, S0116: 1, H0341: 1, H0638: 1, S0418: 1, S0356: 1, S0358: 1, S0046: 1, S0222: 1, H0497: 1, H0333: 1, H0486: 1, H0013: 1, H0427: 1, H0156: 1, H0599: 1, H0581: 1, H0309: 1, I10327: 1, S0312: 1, S0214: 1, L0055: 1, H0038: 1, H0634: 1, H0433: 1, L0370: 1, S0438: 1, H0646: 1, S0002: 1, L0598: 1, H0529: 1, L0451: 1, L0769: 1, L0639: 1, L0637: 1, L5575: 1, L0630: 1, L0800: 1, L0662: 1, L0381: 1, L0775: 1, L0651: 1, L0653: 1, L0661: 1, L0809: 1,

612	HDPTD75	861707	622	219 - 773	2027	AR052: 6, AR053: 5, AR096: 4, AR060: 3, AR033: 3, AR089: 3, AR039: 3, AR055: 3, AR061: 2, AR104: 2 L0731: 7, L0748: 5, L0599: 5, L0775: 4, H0521: 4, L0740: 4, L0766: 3, L0774: 3, L0747: 3, S0026: 3, H0069: 2, S0010: 2, S0474: 2, S0438: 2, L0771: 2, L0768: 2, L0649: 2, L0806: 2, L0653: 2, L0517: 2, L0663: 2, H0701: 2, H0522: 2, L0779: 2, L0755: 2, H0265: 1, H0713: 1, H0295: 1, S0212: 1, S0420: 1, S0444: 1, S0408: 1, H0393: 1, H0549: 1, H0613: 1, H0592: 1, H0331: 1,	L0532: 1, L0664: 1, L0665: 1, H0701: 1, S0122: 1, H0365: 1, H0539: 1, S0152: 1, H0555: 1, L0745: 1, L0777: 1, L0755: 1, L0757: 1, H0445: 1, S0436: 1, L0592: 1, L0608: 1, L0595: 1, L0362: 1, L0361: 1, S0026: 1, S0242: 1, H0422: 1 and S0424: 1.	6-38, 147-176, 111-137, 79-95

613	IITLIC39	861985	623	191 - 637	2028	Ser-128 to Gln-133, Ser-144 to Thr-149.		11q13		4-31, 76-93, 97-114
						H0250: 1, L0021: 1, H0706: 1, H0318: 1, H0263: 1, H0123: 1, L0471: 1, H0024: 1, H0510: 1, H0615: 1, H0031: 1, H0553: 1, H0169: 1, H0674: 1, S0366: 1, S0036: 1, S0016: 1, H0560: 1, H0714: 1, H0509: 1, H0652: 1, S0142: 1, L0762: 1, L0770: 1, L0769: 1, L0764: 1, L0767: 1, L0803: 1, L0651: 1, L0776: 1, L0655: 1, L0606: 1, L0661: 1, L0658: 1, L0512: 1, L0783: 1, L0384: 1, L0809: 1, S0052: 1, H0593: 1, H0689: 1, H0672: 1, S0378: 1, L0439: 1, L0749: 1, L0750: 1, L0757: 1, L0758: 1, L0759: 1, S0031: 1, H0595: 1, S0434: 1, H0423: 1, H0422: 1 and H0506: 1. AR055: 24, AR033: 18, AR053: 15, AR089: 13, AR052: 12, AR061: 8, AR060: 7, AR096: 5, AR039: 2, AR104: 2 H0201: 2, L0764: 2, L0748: 2, L0779: 2, L0759: 2, H0265: 1, H0402: 1,			102200, 106100, 131100, 131100, 131100, 133780, 147050, 153700,	

459

614	HNECI74	862042	624	18 - 653	2029			
					Ser-105 to Pro-110, His-180 to His-196.	AR096: 22, AR089: 22, AR053: 16, AR039: 13, AR060: 12, AR033: 11, AR052: 9, AR055: 7, AR061: 6, AR104: 4 L0751: 15, L0752: 12, L0758: 9, L0766: 8, L0769: 7, L0750: 7, L0776: 6, L0753: 4, L0759: 4, H0585: 3, H0549: 3, H0620: 3, H0628: 3, H0617: 3, L0742: 3, L0754: 3, L0747: 3, L0731: 3, S0436: 3, H0624:	S0420: 1, S0360: 1, H0618: 1, H0424: 1, L0055: 1, H0087: 1, S0002: 1, L0769: 1, L0768: 1, L0766: 1, L0634: 1, H0436: 1, L0747: 1, L0777: 1 and H0542: 1.	161015, 164009, 168461, 168461, 168461, 180721, 180840, 191181, 193235, 209901, 232600, 259700, 259770, 600045, 600319, 600528, 601884	123-152, 63-83, 36-55, 143-159

2, H0265: 2, H0556: 2, H0657: 2, S0360: 2, H0580: 2, S0140: 2, H0050: 2, H0622: 2, H0063: 2, H0551: 2, L0763: 2, L0761: 2, L0774: 2, L0540: 2, S0126: 2, H0689: 2, L0743: 2, L0748: 2, L0780: 2, L0601: 2, S0192: 2, H0422: 2, H0159: 1, H0717: 1, S0114: 1, H0650: 1, H0656: 1, S0116: 1, S0001: 1, H0662: 1, S0418: 1, S0007: 1, H0550: 1, H0441: 1, H0559: 1, L0623: 1, T0039: 1, H0427: 1, H0599: 1, H0575: 1, H0706: 1, S0474: 1, H0581: 1, H0597: 1, H0546: 1, H0545: 1, H0051: 1, T0010: 1, S6028: 1, H0179: 1, H0271: 1, H0687: 1, H0286: 1, S0022: 1, H0615: 1, T0041: 1, H0647: 1, H0649: 1, H0652: 1, S0002: 1, L0796: 1, L0772: 1, L0373: 1, L0764: 1, L0662: 1, L0768: 1, L0794: 1, L0803: 1, L0775: 1, L0378: 1, L0806: 1, L0807: 1, L0512: 1, L0783: 1, L0787:

615	HCRNU23	862179	625	227 - 586	2030	Pro-60 to Gly-66.	1, L0666: 1, H0520: 1, H0659: 1, H0670: 1, S0378: 1, H0710: 1, S0152: 1, H0521: 1, S0406: 1, H0555: 1, H0436: 1, H0345: 1, S3012: 1, S0037: 1, S3014: 1, S0027: 1, S0032: 1, L0749: 1, L0779: 1, L0592: 1, L0097: 1, H0543: 1, S0424: 1 and H0677: 1.	AR033: 12, AR089: 10, AR052: 6, AR055: 6, AR061: 5, AR096: 5, AR053: 5, AR060: 5, AR039: 0, AR104: 0	99-120, 32-48
616	HCMSK41	862374	626	13 - 372	2031	Pro-111 to Ser-120.	S0356: 1, H0431: 1, H0013: 1, H0599: 1, L0770: 1 and L0777: 1.	AR096: 4, AR055: 3, AR053: 3, AR033: 2, AR060: 2, AR061: 2, AR052: 2, AR104: 1, AR089: 1, AR039: 0, H0196: 1	62-82
617	HEEAF67	862392	627	55 - 639	2032	Val-15 to Lys-21, Met-62 to Pro-67.		AR033: 12, AR053: 10, AR052: 10, AR096: 10, AR055: 9, AR089: 9, AR104: 9, AR060: 8, AR061: 6, AR039: 3	79-105, 112-137, 21-39, 161-177

L0748: 7, L0747: 7, L0777: 7, L0731: 7, L0803: 6, S0212: 4, L0751: 4, L0754: 4, S0358: 3, L0794: 3, L0517: 3, L0809: 3, H0663: 2, S0038: 2, L0637: 2, L0771: 2, L0775: 2, L0526: 2, L0783: 2, L0790: 2, H0144: 2, L0744: 2, L0439: 2, L0752: 2, L0758: 2, L0594: 2, L0603: 2, H0624: 1, S0408: 1, H0393: 1, H0549: 1, H0333: 1, L0477: 1, S0010: 1, H0567: 1, H0011: 1, H0012: 1, H0620: 1, H0083: 1, H0099: 1, H0615: 1, H0688: 1, H0628: 1, H0135: 1, H0038: 1, H0616: 1, H0087: 1, H0264: 1, H0412: 1, H0396: 1, H0647: 1, L0770: 1, L0662: 1, L0768: 1, L0766: 1, L0804: 1, L0806: 1, L0805: 1, L0776: 1, L0657: 1, L0558: 1, L0792: 1, L0663: 1, H0520: 1, H0547: 1, H0519: 1, H0658: 1, H0670: 1, H0672: 1, S0328: 1, S0380: 1, L0779: 1, S0192: 1 and H0542: 1.

618	HWAFQ22	862394	628	497-907	2033	Met-1 to Ala-9, Ala-49 to Ser-54, Asp-98 to Trp-103.	AR096: 3, AR089: 1, AR033: 1, AR039: 1, AR060: 1, AR052: 0, AR055: 0, AR053: 0, AR061: 0, AR104: 0 L0439: 12, L0751: 7, L0745: 6, L0766: 4, L0438: 4, H0580: 3, L0717: 3, H0592: 3, S0372: 3, L0770: 3, L0665: 3, L0750: 3, H0422: 3, H0657: 2, S0442: 2, S0444: 2, H0581: 2, H0553: 2, H0494: 2, S0422: 2, L0637: 2, L0662: 2, L0649: 2, L0659: 2, L0793: 2, L0666: 2, L0664: 2, H0726: 2, H0521: 2, L0758: 2, H0445: 2, S0436: 2, L0603: 2, T0002: 1, H0341: 1, H0484: 1, S0420: 1, S0376: 1, H0730: 1, S0045: 1, S0476: 1, H0261: 1, H0586: 1, H0497: 1, H0013: 1, S0474: 1, H0566: 1, H0012: 1, H0594: 1, H0030: 1, L0055: 1, H0616: 1, H0488: 1, H0366: 1, S0426: 1, L0769: 1, L0638: 1, L5566: 1, L0646: 1, L0800: 1, L0764: 1, L0771: 1,	60-79

619	HCECR08	862433	629	567 - 1076	2034	L0767: 1, L0768: 1, L0804: 1, L0774: 1, L0776: 1, L0655: 1, L0809: 1, H0703: 1, S0148: 1, H0724: 1, H0547: 1, H0519: 1, H0659: 1, H0648: 1, H0672: 1, H0710: 1, H0696: 1, S0406: 1, L0756: 1, L0777: 1, L0599: 1, L0601: 1, S0026: 1, S0242: 1 and H0542: 1. AR104: 8, AR06[1]: 4, AR089: 3, AR060: 2, AR033: 2, AR039: 1, AR055: 1, AR096: 1, AR052: 0, AR053: 0 L0779: 6, H0556: 5, L0740: 5, H0052: 4, L0766: 3, H0521: 3, S0028: 3, L0756: 3, S0222: 2, H0553: 2, H0038: 2, L0804: 2, L0666: 2, L0665: 2, L0438: 2, H0658: 2, L0439: 2, L0749: 2, L0758: 2, L0601: 2, H0543: 2, H0255: 1, H0663: 1, S0420: 1, S0356: 1, S0358: 1, H0619: 1, L0717: 1, H0411: 1, H0550: 1, H0592: 1, H0587: 1, H0559: 1, H0486: 1, H0618: 1, H0390: 1, S0346: 1,	132-152, 96-112, 77-93, 33-49

| 620 | HDPCX59 | 862442 | 630 | 685 - 1038 | 2035 | Met-1 to Arg-6. | H0581: 1, H0194: 1, H0121: 1, H0457: 1, H0050: 1, S0051: 1, H0594: 1, H0266: 1, H0271: 1, S0003: 1, H0328: 1, H0622: 1, H0644: 1, H0032: 1, H0135: 1, H0634: 1, H0616: 1, H0087: 1, H0551: 1, H0059: 1, H0100: 1, H0561: 1, S0448: 1, H0132: 1, H0633: 1, H0646: 1, S0002: 1, S0426: 1, L0796: 1, L0761: 1, L0764: 1, L0662: 1, L0768: 1, L0794: 1, L0803: 1, L0775: 1, L0805: 1, L0789: 1, L0663: 1, H0703: 1, H0519: 1, H0682: 1, H0435: 1, H0648: 1, S0152: 1, H0696: 1, H0555: 1, S0206: 1, L0754: 1, L0752: 1, L0731: 1, L0757: 1 and H0423: 1. AR039: 15, AR033: 9, AR096: 8, AR052: 8, AR055: 8, AR089: 8, AR104: 7, AR053: 7, AR060: 5, AR061: 3, H0521: 1 | 4q11-q13 | 103600, 103600, 103600, 104150, 104150, 104500, 125490, 170650 | 95-118, 81-97, 40-56 |

| 621 | HIBCAY76 | 862450 | 631 | 56 - 1186 | 2036 | Arg-68 to Gly-73, Arg-81 to Asn-86, Cys-128 to Glu-133, Arg-175 to Asp-184, Pro-315 to Ser-334, Ser-337 to Ser-360. | AR061: 8, AR039: 3, AR104: 2, AR033: 2, AR060: 1, AR053: 1, AR096: 0, AR055: 0, AR089: 0 L0748: 10, L0809: 5, L0777: 5, H0556: 4, L0769: 4, H0052: 3, S0206: 3, H0265: 2, L0764: 2, L0787: 2, L0439: 2, L0747: 2, L0601: 2, S0218: 1, L0426: 1, S0116: 1, H0484: 1, H0393: 1, H0370: 1, H0178: 1, H0123: 1, H0030: 1, H0553: 1, L0055: 1, H0494: 1, L0763: 1, L0770: 1, L0639: 1, L0773: 1, L0648: 1, L0805: 1, L0666: 1, L0664: 1, H0593: 1, H0659: 1, S0378: 1, H0696: 1 and L0759: 1. | | 1-19, 88-105, 151-167 |
| 622 | HPJAV04 | 862479 | 632 | 166 - 1227 | 2037 | Gln-30 to Cys-35, Leu-50 to Gln-61, Gly-133 to Phe-143, Pro-145 to Glu-157, Asp-178 to Glu-184, Arg-241 to Gln-247, Pro-260 to Leu-267, Phe-305 to Gln-312. | AR055: 10, AR104: 9, AR039: 7, AR060: 7, AR061: 7, AR052: 5, AR089: 5, AR053: 5, AR096: 5, AR033: 5 H0556: 3, H0341: 2, H0144: 2, L0743: 2, S0436: 2, H0543: 2, I0295: 1, H0661: 1, S0046: 1, H0587: | | 61-88, 288-304, 334-350 |

467

| 623 | HHFMA59 | 862567 | 633 | 249 - 749 | 2038 | Arg-127 to Tyr-132. | AR104: 46, AR089: 34, AR096: 33, AR052: 31, AR033: 31, AR039: 30, AR053: 25, AR055: 18, AR060: 14, AR061: 9 H0619: 1 and S3014: 1. | 1, H0333: 1, H0486: 1, H0013: 1, H0618: 1, H0009: 1, H0024: 1, T0010: 1, H0553: 1, H0551: 1, T0042: 1, S0150: 1, S0142: 1, S0422: 1, L0787: 1, H0519: 1, S0152: 1, H0521: 1, H0134: 1, L0740: 1, L0779: 1, S0434: 1, S0194: 1, S0276: 1 and H0422: 1. | 67-85, 8-26, 109-125 |
| 624 | HNFDV96 | 862665 | 634 | 276 - 2423 | 2039 | Ser-39 to Val-46, His-50 to Ser-58, Cys-86 to Ile-91, Phe-106 to Gly-111, Cys-123 to Ala-131, Leu-154 to Glu-170, Leu-225 to Arg-235, Glu-288 to Leu-294, Pro-397 to Thr-402, Asp-411 to Glu-417, Arg-449 to Arg-455, Ile-531 to Thr-537, Pro-578 to Arg-587, | AR089: 1, AR055: 1, AR061: 1, AR060: 0, AR053: 0, AR039: 0, AR052: 0, AR096: 0, AR033: 0 H0624: 1, H0306: 1, H0497: 1, H0271: 1, H0521: 1 and L0595: 1. | | 234-256 |

| 625 | HNTAI35 | 862671 | 635 | 145 - 516 | 2040 | Ser-647 to Thr-656, Asp-670 to Ala-675, His-682 to Asn-688. | AR096: 18, AR089: 14, AR039: 10, AR104: 8, AR060: 7, AR033: 6, AR053: 5, AR052: 5, AR055: 3, AR061: 2 H0046: 7, H0521: 7, H0556: 6, H0551: 5, H0265: 4, S0212: 4, H0585: 3, H0599: 3, S0002: 3, H0522: 3, H0149: 2, S0040: 2, H0341: 2, H0586: 2, H0024: 2, H0266: 2, S0250: 2, H0622: 2, H0634: 2, L0596: 2, T0002: 1, H0656: 1, H0638: 1, H0125: 1, S0418: 1, S0358: 1, S0132: 1, H0619: 1, H0437: 1, H0415: 1, H0592: 1, H0642: 1, H0486: 1, T0040: 1, H0250: 1, H0575: 1, H0618: 1, S0474: 1, H0123: 1, H0050: 1, H0012: 1, H0014: 1, H0373: 1, H0286: 1, H0039: 1, H0135: 1, H0022: 1, T0042: 1, H0560: 1, H0561: 1, S0144: 1, S0142: 1, S0344: 1, S0210: 1, L0378: | 86-106, 19-36 |

626	HCE3X63	862807	636	719 - 2422	2041	Ser-11 to Glu-17.	1, H0519: 1, H0593: 1, H0435: 1, S0390: 1, S0037: 1, S0027: 1, L0740: 1, L0779: 1, L0593: 1, L0601: 1 and H0422: 1. AR052: 3, AR053: 2, AR096: 2, AR055: 1, AR089: 1, AR060: 1, AR061: 0, AR033: 0, AR039: 0, AR104: 0	1	20-50, 206-229, 167-189, 77-103, 58-75, 128-144, 240-256
627	HCE2K01	862851	637	103 - 915	2042	Ala-12 to Glu-27, Pro-35 to Ser-43, Pro-70 to Gly-79, Ser-92 to Val-98, Pro-166 to Leu-175, Ser-234 to Thr-246.	AR104: 15, AR033: 15, AR055: 4, AR039: 3, AR052: 3, AR089: 2, AR060: 2, AR061: 2, AR053: 2, AR096: 1 H0052: 7, L0769: 7, L0741: 6, S0222: 3, S0031: 3, H0441: 2, S0049: 2, S0036: 2, L0366: 2, S0106: 2, S0110: 1, H0261: 1, S0346: 1, S0050: 1, S0038: 1, L0773: 1, L0384: 1, L0789: 1, H0521: 1, H0522: 1, L0742: 1, L0752: 1, L0758: 1 and S0250: 1.	12q13	107777, 123940, 139350, 139350, 148040, 148041, 148043, 148070, 231550, 600194, 600231, 600536, 600808, 600956, 601284, 601769, 601769, 100-130, 248-264, 142-158

| 628 | HJPCG05 | 862913 | 638 | 695 - 1072 | 2043 | His-91 to Leu-97, Pro-108 to Gly-118, Leu-120 to Pro-126. | AR055: 19, AR053: 18, AR033: 15, AR052: 15, AR089: 12, AR039: 12, AR060: 10, AR061: 8, AR096: 6, AR104: 4 L0375: 3, H0575: 2, L0800: 2, L0794: 2, L0789: 2, H0556: 1, H0662: 1, S0418: 1, H0619: 1, H0549: 1, H0590: 1, H0052: 1, H0083: 1, H0266: 1, H0286: 1, H0644: 1, S0036: 1, H0433: 1, H0412: 1, H0413: 1, T0042: 1, S0144: 1, S0142: 1, S0344: 1, L0770: 1, L0761: 1, L0774: 1, H0518: 1, L0777: 1, L0758: 1 and H0665: 1. | 601928, 602116, 602153 | 64-89, 3-19 |
| 629 | HOUFG48 | 863051 | 639 | 61 - 633 | 2044 | Pro-10 to Leu-20, Asn-33 to Val-38. | AR055: 6, AR052: 5, AR033: 5, AR089: 5, AR053: 4, AR061: 4, AR060: 3, AR096: 3, AR039: 1, AR104: 1 L0752: 6, L0747: 5, L0438: 4, L0439: 4, S0007: 3, L0776: 3, H0686: 2, | | 115-134, 57-73 |

630	HCY BG68	863308	640	154 - 1260	2045		139-159
					Leu-178 to Gly-191, Glu-225 to Thr-232,	S0040: 2, T0039: 2, H0052: 2, H0009: 2, H0031: 2, H0068: 2, L0769: 2, L0809: 2, L0665: 2, L0749: 2, L0757: 2, L0758: 2, L0590: 2, L0599: 2, L0595: 2, H0294: 1, S0376: 1, S0360: 1, H0580: 1, H0550: 1, H0587: 1, H0486: 1, H0013: 1, H0581: 1, L0471: 1, H0023: 1, S0362: 1, H0266: 1, H0290: 1, H0428: 1, H0038: 1, H0551: 1, H0412: 1, T0041: 1, T0042: 1, H0561: 1, S0144: 1, H0538: 1, H0529: 1, L0637: 1, L0372: 1, L0773: 1, L0662: 1, L0626: 1, L0768: 1, L0766: 1, L0803: 1, L0519: 1, H0701: 1, H0547: 1, H0659: 1, H0660: 1, H0651: 1, H0539: 1, S0380: 1, H0710: 1, H0521: 1, H0214: 1, H0478: 1, H0540: 1, L0742: 1, L0743: 1, L0750: 1, L0777: 1, L0731: 1, S0434: 1, L0592: 1 and H0543: 1. AR033: 2, AR060: 1, AR096: 1, AR055: 1,	

631	HDTBD83	863372	641	268 - 603	2046	Glu-247 to Ser-256, Ser-262 to Glu-274, Glu-280 to Gln-290.	AR089: 1, AR053: 1, AR039: 0, AR061: 0, AR104: 0 S0007: 3, S0010: 2, S0028: 2, L0366: 2, H0170: 1, H0583: 1, S0001: 1, S0282: 1, T0114: 1, H0244: 1, S0346: 1, H0318: 1, H0581: 1, H0320: 1, H0051: 1, S0051: 1, S6028: 1, H0416: 1, H0644: 1, H0068: 1, H0551: 1, L0776: 1, H0701: 1, H0520: 1, L0439: 1, L0777: 1, L0592: 1, L0594: 1 and S0242: 1.	79-95, 21-37
632	HCDEG27	863396	642	35 - 355	2047	Gly-16 to Arg-21.	AR033: 4, AR055: 2, AR089: 2, AR060: 1, AR096: 1, AR061: 1, AR104: 0, AR039: 0, AR052: 0, AR053: 0 H0052: 2 and H0486: 1.	60-93, 80-96
633	HBXDJ07	863541	643	124 -	2048	Glu-62 to Lys-68,	AR039: 81, AR053: 42, AR033: 38, AR055: 34, AR052: 33, AR096: 31, AR104: 29, AR089: 28, AR060: 25, AR061: 17 H0251: 6, L0770: 2, L0762: 1 and L0757: 1. AR033: 10, AR104: 5,	1-20, 112-

| 634 | HBKDA80 | 863586 | 644 | 71 - 676 | 2049 | Gly-18 to Lys-25, Val-43 to Gly-48, Gly-56 to Arg-62. | AR104: 57, AR033: 49, AR061: 13, AR096: 12, AR089: 10, AR055: 9, AR060: 6, AR039: 4, AR052: 2, AR053: 1 L0748: 22, H0052: 19, S0036: 12, L0752: 10, L0439: 9, L0622: 8, S0051: 7, H0478: 7, L0623: 6, L0809: 6, L0747: 6, H0441: 5, H0599: 5, L0770: 5, L0666: 5, L0741: 5, L0743: 5, L0745: 5, S0049: 4, L0471: 4, L0794: 4, L0438: 4, S0330: 4, H0521: 4, L0742: 4, L0746: 4, L0485: 4, S0358: 3, H0687: 3, | 6p21.3 | 106300, 108800, 120290, 120290, 120810, 120820, 142857, 142858, 150270, 167250, 170261, 177900, 179450, 201910, 217000, 222100, 233100, | 136-152 |
| | | | | 651 | | Asn-105 to Gly-113. | AR052: 3, AR096: 3, AR055: 2, AR053: 2, AR089: 1, AR061: 1, AR060: 1, AR039: 1 L0439: 6, S0222: 3, L0794: 3, H0052: 2, S6028: 2, S0038: 2, L0740: 2, L0756: 2, H0624: 1, H0171: 1, S6024: 1, H0013: 1, H0374: 1, H0050: 1, S0050: 1, H0051: 1, S0386: 1, H0144: 1, L0438: 1 and L0746: 1. | | | 135, 77-103 |

235200, 248611, 256550, 256550, 600202, 600261, 601868, 602280; 602475	S0038: 3, S0438: 3, L0774: 3, L0659: 3, H0539: 3, L0779: 3, S6024: 2, S0001: 2, S0356: 2, H0645: 2, S6026: 2, S0222: 2, S6014: 2, H0455: 2, H0586: 2, H0194: 2, H0051: 2, H0201: 2, S0388: 2, T0010: 2, S0364: 2, L0455: 2, H0068: 2, H0135: 2, H0264: 2, S0112: 2, L0371: 2, L0769: 2, L0638: 2, L3905: 2, L5566: 2, L0800: 2, L0803: 2, L0664: 2, S0310: 2, H0660: 2, L0612: 2, L0744: 2, L0756: 2, L0361: 2, H0171: 1, H0713: 1, L0393: 1, L0785: 1, S0029: 1, S0408: 1, H0722: 1, S0007: 1, H0393: 1, S0300: 1, H0351: 1, H0549: 1, H0550: 1, H0357: 1, H0592: 1, H0587: 1, S0280: 1, H0156: 1, H0597: 1, H0327: 1, H0046: 1, H0150: 1, H0009: 1, H0569: 1, H0014: 1, S0362: 1, L0163: 1, H0408: 1, H0188: 1, H0284: 1, H0615: 1, H0428: 1, H0673: 1, H0708: 1, S0366: 1,

| 635 | HSSDP38 | 863587 | 645 | 214 - 1188 | 2050 | Gly-18 to Lys-25, Val-29 to Gly-34, Gly-42 to Arg-48, Leu-199 to Arg-204, Trp-220 to Asp-228, Asn-261 to Gln-268. | T0004: 1, L0351: 1, S0352: 1, S0440: 1, S0144: 1, S0344: 1, L0763: 1, L0500: 1, L5575: 1, L0761: 1, L0646: 1, L0771: 1, L0648: 1, L0649: 1, L0804: 1, L0651: 1, L0805: 1, L0776: 1, L0542: 1, L0782: 1, L0783: 1, L0789: 1, L0790: 1, L0791: 1, S0053: 1, S0374: 1, H0520: 1, H0547: 1, H0593: 1, H0670: 1, H0522: 1, S0044: 1, H0555: 1, H0631: 1, S0432: 1, L0740: 1, L0750: 1, L0786: 1, L0755: 1, S0031: 1, H0445: 1, L0581: 1 and L0604: 1. AR104: 42, AR033: 40, AR055: 13, AR061: 12, AR089: 9, AR096: 8, AR060: 7, AR052: 4, AR053: 3, AR039: 3, L0748: 22, H0052: 19, S0036: 12, L0752: 10, L0439: 9, L0622: 8, S0051: 7, H0478: 7, L0623: 6, L0809: 6, L0747: 6, H0441: 5, H0599: 5, L0770: 5, L0666: 5, L0741: 5, L0743: 5. | 6p21.3 | 106300, 108800, 120290, 120290, 120810, 120820, 142857, 142858, 150270, 167250, 170261, 177900, | 122-138 |

179450, 201910, 217000, 222100, 233100, 235200, 248611, 256550, 256550, 600202, 600261, 601868, 602280, 602475	5, L0745: 5, S0049: 4, L0471: 4, L0794: 4, L0438: 4, S0330: 4, H0521: 4, L0742: 4, L0746: 4, L0485: 4, S0358: 3, H0687: 3, S0038: 3, S0438: 3, L0774: 3, L0659: 3, H0539: 3, L0779: 3, S6024: 2, S0001: 2, S0356: 2, H0645: 2, S6026: 2, S0222: 2, S6014: 2, H0455: 2, H0586: 2, H0194: 2, H0051: 2, H0201: 2, S0388: 2, T0010: 2, S0364: 2, L0455: 2, H0068: 2, H0135: 2, H0264: 2, S0112: 2, L0371: 2, L0769: 2, L0638: 2, L3905: 2, L5566: 2, L0800: 2, L0803: 2, L0664: 2, S0310: 2, H0660: 2, L0612: 2, L0744: 2, L0756: 2, L0361: 2, H0171: 1, H0713: 1, L0393: 1, L0785: 1, S0029: 1, S0408: 1, H0722: 1, S0007: 1, H0393: 1, S0300: 1, H0351: 1, H0549: 1, H0550: 1, H0357: 1, H0592: 1, H0587: 1, S0280: 1, H0156: 1, H0597: 1, H0327: 1, H0046: 1, H0150: 1, H0009:

636	HSSGL44	863654	646	1668 - 1982	2051		87-104
					Ala-17 to Ser-27, Arg-42 to Ser-57, Thr-72 to Gly-85.	1, I10569: 1, H0014: 1, S0362: 1, L0163: 1, H0408: 1, H0188: 1, H0284: 1, H0615: 1, H0428: 1, H0673: 1, H0708: 1, S0366: 1, T0004: 1, L0351: 1, S0352: 1, S0440: 1, S0144: 1, S0344: 1, L0763: 1, L0500: 1, L5575: 1, L0761: 1, L0646: 1, L0771: 1, L0648: 1, L0649: 1, L0804: 1, L0651: 1, L0805: 1, L0776: 1, L0542: 1, L0782: 1, L0783: 1, L0789: 1, L0790: 1, L0791: 1, S0053: 1, S0374: 1, H0520: 1, H0547: 1, H0593: 1, H0670: 1, H0522: 1, S0044: 1, H0555: 1, H0631: 1, S0432: 1, L0740: 1, L0750: 1, L0786: 1, L0755: 1, S0031: 1, H0445: 1, L0581: 1 and L0604: 1. AR055: 4, AR052: 4, AR096: 3, AR060: 3, AR033: 3, AR053: 3, AR089: 3, AR061: 2, AR104: 2, AR039: 0 L0439: 8, H0556: 6, L0766: 4, L0740: 4, S0420:	

3, S0222: 3, L0749: 3, H0265: 2, S0418: 2, H0393: 2, T0039: 2, H0013: 2, H0012: 2, L0769: 2, L0768: 2, L0809: 2, L0565: 2, H0547: 2, S0126: 2, S0027: 2, L0743: 2, L0748: 2, L0751: 2, L0747: 2, L0779: 2, L0731: 2, L0758: 2, H0171: 1, T0002: 1, H0224: 1, H0657: 1, H0177: 1, H0402: 1, H0580: 1, H0600: 1, H0486: 1, L0021: 1, H0042: 1, S0010: 1, H0421: 1, H0196: 1, H0009: 1, L0471: 1, H0620: 1, H0024: 1, S0051: 1, H0594: 1, H0247: 1, H0266: 1, S0214: 1, S0364: 1, H0598: 1, H0135: 1, H0264: 1, H0413: 1, S0038: 1, L0370: 1, T0042: 1, H0334: 1, H0647: 1, L0763: 1, L0772: 1, L0372: 1, L0662: 1, L0805: 1, L0659: 1, L0518: 1, L0647: 1, H0697: 1, S0380: 1, H0518: 1, H0521: 1, S0146: 1, H0576: 1, S0028: 1, L0777: 1, L0752: 1, H0445: 1, H0595: 1, L0588:

| 637 | HBODY10 | 863665 | 647 | 6 - 875 | 2052 | Ala-13 to Gly-18. | 1 and H0542: 1. AR096: 8, AR060: 7, AR089: 6, AR055: 6, AR052: 6, AR053: 5, AR033: 5, AR104: 4, AR061: 4, AR039: 0 L0777: 3, H0624: 2, S0366: 2, L0779: 2, L0759: 2, L0604: 2, H0171: 1, H0149: 1, H0729: 1, H0741: 1, L0622: 1, L0623: 1, H0546: 1, H0213: 1, S0364: 1, H0708: 1 and L0636: 1. | 93-114, 185-203, 56-72, 256-272, 20-36, 116-132 |
| 638 | HDFUB58 | 863687 | 648 | 1229 - 1714 | 2053 | Ser-20 to Lys-33, Glu-100 to Thr-111. | AR104: 5, AR033: 4, AR096: 3, AR089: 3, AR053: 3, AR055: 2, AR060: 2, AR061: 1, AR052: 1, AR039: 0 L0748: 9, L0777: 3, L0438: 2, L0751: 2, L0362: 2, H0381: 1, S0282: 1, S0045: 1, L0717: 1, L0037: 1, H0567: 1, L0471: 1, S6028: 1, H0163: 1, H0040: 1, H0100: 1, L0639: 1, L0775: 1, L0375: 1, L0776: 1, S0374: 1, S0330: 1, L0741: 1, L0743: 1, L0744: 1, L0439: 1 and L0756: 1. | 108-134, 78-94, 139-155 |

639	HSMBE70	863709	649	586 - 900	2054	Gly-2 to Gly-10, Ser-56 to Cys-62.	AR096: 5, AR033: 4, AR053: 4, AR104: 4, AR052: 3, AR089: 3, AR060: 2, AR055: 1, AR061: 1, AR039: 0 H0295: 4, L0731: 4, S0040: 2, H0688: 2, L0775: 2, L0659: 2, H0521: 2, L0744: 2, H0713: 1, H0294: 1, S0298: 1, H0370: 1, H0586: 1, H0599: 1, S0364: 1, H0059: 1, L0769: 1, L0646: 1, L0764: 1, L0363: 1, L0776: 1, L0749: 1 and H0668: 1.			82-99, 63-79
640	HEPAA94	863718	650	91 - 405	2055		AR039: 2, AR055: 2, AR104: 1, AR033: 1, AR060: 1, AR053: 0, AR089: 0, AR061: 0, AR096: 0, AR052: 0 S0212: 5, L0776: 3, S0404: 3, S0045: 2, L0665: 2, H0670: 2, L0777: 2, L0757: 2, S0342: 1, S0418: 1, H0339: 1, H0013: 1, L0021: 1, H0318: 1, H0545: 1, H0150: 1, T0079: 1, H0594: 1, H0188: 1, H0687: 1, H0252: 1, H0644: 1, H0616: 1, H0413: 1, L0794: 1,	8p11.2-p11.1	136350, 152760, 180100, 182900, 277700, 600617	51-68, 24-40, 84-100

641	HHECU86	863734	651	90 - 737	2056	Ser-29 to His-36.	AR039: 6, AR053: 5, AR052: 5, AR096: 5, AR089: 4, AR033: 4, AR104: 4, AR060: 3, AR055: 3, AR061: 2 L0766: 3, L0774: 3, S0126: 3, L0748: 3, H0551: 2, L0640: 2, L0770: 2, L0771: 2, L0649: 2, L0663: 2, L0740: 2, L0779: 2, L0731: 2, L0593: 2, H0542: 2, S0116: 1, S0420: 1, S0376: 1, S0360: 1, H0580: 1, H0497: 1, H0575: 1, H0581: 1, H0544: 1, H0050: 1, H0708: 1, H0714: 1, H0641: 1, L3904: 1, L0646: 1, L0642: 1, L0764: 1, L0666: 1, S0390: 1, L0745: 1, H0543: 1 and H0423: 1.	L0766: 1, L0803: 1, L0657: 1, L0809: 1, L0789: 1, L0790: 1, L0663: 1, H0144: 1, L0438: 1, H0658: 1, H0651: 1, L0743: 1, L0439: 1, L0758: 1, S0242: 1, S0194: 1 and S0021: 1.	6	188-204
642	HBXGQ49	863848	652	111 - 1058	2057	Gly-96 to Gly-102, Pro-114 to Trp-121,	AR033: 213, AR061: 162, AR089: 117, AR060: 103,			253-269

| 643 | HCECL08 | 863887 | 653 | 207 - 992 | 2058 | Leu-135 to Gly-145, Glu-189 to Phe-195, Cys-233 to His-239, Glu-283 to Thr-299. | AR096: 15, AR052: 9, AR055: 7, AR053: 6, AR039: 0, AR104: 0 H0051: 6, S0036: 4, L0770: 4, H0052: 3, L0769: 3, L0803: 3, S0010: 2, S0112: 2, S0282: 1, H0305: 1, H0261: 1, H0438: 1, S0346: 1, H0327: 1, H0046: 1, S0051: 1, H0100: 1, L0635: 1, L0741: 1 and S0260: 1. | | | 211-239, 1-18, 156-172 |
| | | | | | | Tyr-24 to His-32, Pro-38 to Ala-44, Pro-66 to Glu-75, His-111 to Gly-116, Tyr-139 to Ser-146, Thr-176 to Ser-181, Lys-239 to Lys-249. | AR055: 10, AR060: 6, AR033: 6, AR061: 5, AR096: 5, AR052: 4, AR089: 4, AR053: 4, AR039: 4, AR104: 3 L0740: 9, L0748: 6, L0803: 3, L0777: 3, H0556: 2, L0741: 2, L0746: 2, H0392: 1, H0052: 1, H0009: 1, H0012: 1, H0620: 1, T0067: 1, L0598: 1, L0770: 1, L0769: 1, L0805: 1, L0783: 1, L0809: 1, H0144: 1, L0745: 1, L0749: 1, L0759: 1, S0031: 1, L0608: 1, L0593: 1, L0595: 1 and H0352: 1. | 1q21 | 104770, 107670, 110700, 135940, 145001, 146790, 152445, 152445, 159001, 174000, 179755, 182860, 182860, 182860, 191315, 230800, 230800, 266200, | |

483

644	HUCOT09	863914	654	5 - 1318	2059		600897, 601105, 601412, 601652, 602491	298-314
						AR033: 5, AR055: 5, AR096: 4, AR104: 3, AR052: 3, AR089: 3, AR060: 3, AR039: 2, AR061: 1, AR053: 1, L0748: 16, L0758: 10, L0754: 9, L0747: 9, L0751: 8, L0769: 6, L0806: 6, L0776: 6, L0439: 6, H0457: 5, H0494: 5, L0740: 5, H0599: 4, H0052: 4, L0662: 4, L0774: 4, L0757: 4, H0506: 4, S0418: 3, H0619: 3, H0586: 3, H0416: 3, H0622: 3, H0553: 3, H0560: 3, L0766: 3, L0659: 3, L0666: 3, L0665: 3, H0521: 3, L0485: 3, H0663: 2, S0358: 2, L0717: 2, H0261: 2, H0575: 2, S0474: 2, H0421: 2, H0251: 2, T0010: 2, H0266: 2, H0188: 2, H0135: 2, H0280: 2, S0142: 2, L0369: 2, L0764: 2, L0768: 2, L0803: 2, L0653:		

2, L0663: 2, L0664: 2,
S0374: 2, H0593: 2, H0539:
2, L0750: 2, L0779: 2,
L0731: 2, L0759: 2, S0031:
2, L0596: 2, L0604: 2,
L0601: 2, H0667: 2, S6024:
1, S0114: 1, H0341: 1,
H0255: 1, H0661: 1, H0662:
1, H0638: 1, S0420: 1,
H0675: 1, H0580: 1, S0132:
1, S0222: 1, H0455: 1,
H0587: 1, H0333: 1, H0069:
1, H0427: 1, H0097: 1,
H0098: 1, T0082: 1, H0706:
1, S0049: 1, H0196: 1,
H0194: 1, H0597: 1, H0327:
1, H0545: 1, H0024: 1,
H0373: 1, H0051: 1, H0510:
1, H0179: 1, H0288: 1,
H0252: 1, H0615: 1, H0039:
1, S0364: 1, H0124: 1,
S0366: 1, H0163: 1, H0090:
1, S0038: 1, H0561: 1,
L0065: 1, H0647: 1, S0144:
1, S0344: 1, S0002: 1,
L0598: 1, H0529: 1, L0640:
1, L0763: 1, L0770: 1,
L0638: 1, L0637: 1, L0761:
1, L0646: 1, L0771: 1,
L0773: 1, L0533: 1, L0775:

| 645 | HYBAF24 | 863934 | 655 | 31 - 510 | 2060 | Cys-51 to Arg-76, Glu-122 to Gln-129. | AR052: 12, AR089: 11, AR055: 10, AR053: 10, AR033: 10, AR096: 10, AR060: 9, AR104: 8, AR061: 7, AR039: 4 L0748: 8, H0677: 7, L0601: 6, L0747: 4, L0362: 4, L0764: 3, L0779: 3, L0752: 3, H0657: 2, H0402: 2, S0132: 2, S0278: 2, H0486: 2, S0010: 2, H0009: 2, H0090: 2, H0038: 2, H0063: 2, S0438: 2, S0002: 2, L0768: 2, L0766: 2, L0774: 2, L0665: 2, L0438: 2, H0547: 2, H0658: 2, S3014: 2, L0754: 2, L0750: 2, L0731: 2, L0596: 2, H0423: 2, H0352: 2, H0686: | 1, L0523: 1, L0379: 1, L0657: 1, L0783: 1, H0144: 1, H0520: 1, H0690: 1, H0659: 1, H0670: 1, H0648: 1, S0378: 1, S0152: 1, S0332: 1, H0522: 1, H0696: 1, H0436: 1, S3012: 1, S0028: 1, L0744: 1, L0752: 1, S0394: 1, L0588: 1, L0608: 1, S0192: 1 and S0276: 1. | 101-117 |

646	HEMET46	863977	656	201 -	2061	Thr-36 to Gln-49,		184-216,
							1, L0002: 1, S0358: 1, H0437: 1, H0602: 1, T0109: 1, H0599: 1, H0036: 1, H0004: 1, H0318: 1, H0581: 1, H0421: 1, H0052: 1, H0046: 1, H0041: 1, L0471: 1, H0024: 1, L0163: 1, S0051: 1, H0083: 1, H0188: 1, H0252: 1, H0615: 1, L0483: 1, T0006: 1, H0598: 1, H0040: 1, T0041: 1, S0440: 1, S0150: 1, S0142: 1, S0344: 1, L0369: 1, L0763: 1, L0770: 1, L0769: 1, L4747: 1, L0772: 1, L0372: 1, L0771: 1, L0794: 1, L0499: 1, L0776: 1, L0655: 1, L0807: 1, L0657: 1, L0513: 1, L0382: 1, L0809: 1, L0787: 1, L0664: 1, H0690: 1, H0659: 1, H0670: 1, H0660: 1, H0710: 1, S0152: 1, H0696: 1, H0704: 1, H0555: 1, S0028: 1, L0741: 1, L0740: 1, L0755: 1, L0757: 1, L0758: 1, H0595: 1, L0485: 1, S0026: 1, H0216: 1, H0543: 1, H0422: 1 and S0424: 1. AR060: 11, AR055: 8.	

647	HFXJM86	863982	657	246 - 1757	983		2062		
						Thr-56 to Thr-64, Thr-93 to Asp-99, Gln-120 to Lys-133, Asp-145 to Gly-152, Glu-174 to Ser-180, Ala-183 to Tyr-188, Cys-216 to Ser-237, His-253 to Asn-261.		AR033: 5, AR089: 5, AR053: 4, AR052: 4, AR061: 4, AR096: 4, AR104: 3, AR039: 1 L0759: 8, L0598: 5, L0588: 3, S0360: 2, S0045: 2, L0471: 2, H0412: 2, L0803: 2, L0774: 2, L0776: 2, L0740: 2, L0752: 2, L0599: 2, S0116: 1, H0662: 1, S0444: 1, S0046: 1, H0592: 1, H0587: 1, H0574: 1, H0244: 1, H0427: 1, H0050: 1, H0014: 1, H0674: 1, S0366: 1, H0433: 1, H0413: 1, H0623: 1, T0042: 1, UNKWN: 1, L0665: 1, S0330: 1, S3012: 1, L0777: 1, H0343: 1 and S0446: 1.	1-17
								AR052: 62, AR053: 48, AR055: 35, AR096: 29, AR089: 20, AR104: 17, AR039: 14, AR060: 13, AR033: 13, AR061: 8 H0599: 5, H0619: 2, S0366: 2, S0282: 1, S0029: 1, H0735: 1, H0200: 1, H0373: 1 and S6028: 1.	248-273, 116-135, 73-92, 299-316, 361-377, 428-444, 459-475, 6-22, 137-153, 384-400

648	HDTHL37	864023	658	121 - 897	2063	Ile-50 to Lys-57, Thr-71 to Val-78, Asn-81 to Ala-91, Cys-99 to Gly-105, Ser-138 to Thr-150.	AR033: 7, AR089: 7, AR039: 7, AR052: 6, AR096: 5, AR060: 5, AR061: 4, AR104: 4, AR053: 4, AR055: 3 L0748: 11, L0769: 7, L0766: 7, L0666: 6, L0754: 6, L0779: 6, H0620: 5, L0483: 5, L0770: 5, L0764: 5, L0747: 5, L0759: 5, H0013: 4, H0012: 4, L0776: 4, L0749: 4, L0777: 4, L0755: 4, L0594: 4, S0418: 3, S0360: 3, S0408: 3, H0244: 3, S0440: 3, L0771: 3, L0375: 3, L0663: 3, L0664: 3, L0665: 3, L0751: 3, L0757: 3, H0650: 2, H0038: 2, T0042: 2, H0494: 2, L0761: 2, L0662: 2, L0806: 2, H0519: 2, H0682: 2, H0660: 2, L0439: 2, L0740: 2, L0750: 2, L0758: 2, L0596: 2, H0422: 2, H0170: 1, H0556: 1, T0002: 1, H0686: 1, S0040: 1, S0114: 1, H0657: 1, H0341: 1, H0663: 1, S0356: 1, S0358: 1, H0393: 1, H0261: 1, S0222: 1, H0431: 1,	240-259, 112-128, 201-217, 26-42

| 649 | HBJF-E32 | 864093 | 659 | 338 - 868 | 2064 | Leu-82 to Thr-97. | H0404: 1, H0586: 1, L0623: 1, H0486: 1, H0427: 1, H0156: 1, H0706: 1, H0318: 1, S0474: 1, H0251: 1, H0309: 1, H0263: 1, H0041: 1, H0197: 1, H0266: 1, H0328: 1, L0194: 1, H0644: 1, H0180: 1, L0055: 1, H0068: 1, H0591: 1, H0063: 1, H0413: 1, H0100: 1, H0625: 1, S0438: 1, S0150: 1, H0646: 1, S0144: 1, S0142: 1, S0210: 1, S0002: 1, H0529: 1, L0369: 1, L0762: 1, L0763: 1, L0638: 1, L0667: 1, L0645: 1, L0648: 1, L0774: 1, L0775: 1, L0805: 1, L0654: 1, L0657: 1, L0659: 1, L0636: 1, L0518: 1, L0809: 1, H0689: 1, H0690: 1, H0684: 1, H0435: 1, H0670: 1, S0328: 1, S0330: 1, H0539: 1, S0380: 1, H0696: 1, H0576: 1, S0434: 1, L0591: 1, L0592: 1, S0026: 1, L0600: 1 and H0352: 1. AR055: 13, AR089: 12, AR033: 10, AR060: 10, AR104: 9, AR039: 8, | 54-70, 100-116 |

| 650 | HSLDY71 | 864179 | | 660 | 77 - 769 | 2065 | Thr-83 to Asn-92. | AR052: 8, AR053: 8, AR096: 8, AR061: 7 H0341: 2, S0045: 2, H0551: 2, H0556: 1, S0376: 1, H0619: 1, H0437: 1, H0601: 1, H0333: 1, H0485: 1, H0013: 1, H0635: 1, H0590: 1, H0318: 1, H0009: 1, H0266: 1, H0267: 1, S0003: 1, H0615: 1, H0644: 1, H0383: 1, H0068: 1, H0316: 1, H0116: 1, H0264: 1, H0561: 1, L0768: 1, L0794: 1, H0144: 1, I0436: 1, S0028: 1, L0744: 1, H0445: 1, H0542: 1 and S0424: 1. | AR096: 5, AR039: 4, AR089: 4, AR055: 4, AR060: 3, AR053: 3, AR033: 3, AR052: 3, AR104: 2, AR061: 2 H0521: 3, L0600: 3, L0805: 2, L0666: 2, H0547: 2, H0445: 2, H0265: 1, H0556: 1, S0342: 1, H0713: 1, T0008: 1, S0049: 1, H0052: 1, L0471: 1, H0598: 1, H0551: 1, H0561: 1, L0768: 1, L0438: 1, H0555: | 138-154, 190-206, 119-135, 95-111, 159-175 |

| 651 | HULFN21 | 864272 | 661 | 680 - 3 | 2066 | Gly-45 to Pro-80, Pro-110 to Gly-116, Pro-118 to Ala-132, Ser-146 to Ala-151, Thr-153 to Ser-163, Gln-171 to Pro-177, Ser-196 to Pro-222. | AR055: 20, AR033: 14, AR089: 12, AR061: 10, AR053: 10, AR052: 10, AR060: 7, AR096: 6, AR104: 2, AR039: 0 L0747: 15, L0731: 11, H0657: 7, H0032: 7, L0752: 7, L0766: 6, L0775: 6, L0740: 6, L0749: 6, H0341: 5, H0318: 5, H0617: 5, L0755: 5, H0484: 4, S0360: 4, S0408: 4, S0222: 4, H0087: 4, L0769: 4, L0804: 4, L0776: 4, H0659: 4, L0742: 4, L0748: 4, L0751: 4, L0754: 4, H0661: 3, S0410: 3, H0486: 3, H0266: 3, L0803: 3, H0144: 3, H0547: 3, H0658: 3, S3014: 3, L0758: 3, L0759: 3, H0543: 3, H0265: 2, H0685: 2, S0134: 2, S0116: 2, H0638: 2, S0418: 2, S0358: 2, H0392: 2, L0623: 2, H0013: 2, H0156: 2, H0530: 2, S0051: 2, H0083: 2, H0169: 2, H0616: 2, H0059: 2, 1, S0028: 1, L0439: 1, L0779: 1, L0757: 1, S0436: 1 and L0601: 1. | 83-110, 1-17 |

2, S0438: 2, H0529: 2, L0772: 2, L0771: 2, L0521: 2, L0768: 2, L0794: 2, L0375: 2, L0806: 2, L0805: 2, L0655: 2, L0657: 2, L0526: 2, L0518: 2, L0664: 2, H0690: 2, S0378: 2, S0152: 2, L0750: 2, L0779: 2, L0596: 2, H0653: 2, H0352: 2, H0170: 1, H0556: 1, H0686: 1, H0295: 1, H0483: 1, H0255: 1, H0663: 1, H0306: 1, H0125: 1, S0356: 1, S0354: 1, H0722: 1, H0728: 1, S0046: 1, S0132: 1, H0370: 1, H0333: 1, H0574: 1, H0485: 1, T0109: 1, H0421: 1, S0049: 1, H0251: 1, H0596: 1, H0327: 1, H0546: 1, H0545: 1, H0150: 1, H0567: 1, H0570: 1, H0123: 1, H0081: 1, H0012: 1, H0620: 1, H0014: 1, H0373: 1, S0388: 1, H0510: 1, H0375: 1, H0594: 1, S6028: 1, H0267: 1, H0292: 1, H0615: 1, H0688: 1, H0428: 1, H0604: 1, H0031: 1, H0644: 1, H0606: 1, L0055: 1, H0165:

652	HCRPE50	864273	662	18 - 692	2067		92-119
					Pro-5 to Arg-12, Gly-54 to Pro-89, Glu-125 to Ala-131, Ser-145 to Ala-150, Thr-152 to Ser-162,	1, H0674: 1, S0364: 1, H0708: 1, S0366: 1, H0598: 1, H0135: 1, H0090: 1, H0591: 1, H0038: 1, H0634: 1, H0268: 1, H0413: 1, H0100: 1, H0494: 1, H0560: 1, H0396: 1, H0561: 1, H0366: 1, S0294: 1, S0440: 1, H0509: 1, H0641: 1, S0144: 1, S0422: 1, S0002: 1, L0371: 1, L0631: 1, L0796: 1, L0639: 1, L0372: 1, L0773: 1, L0386: 1, L0774: 1, L0378: 1, L0653: 1, L0512: 1, L0659: 1, L0809: 1, L5623: 1, L0663: 1, H0520: 1, H0519: 1, H0689: 1, H0670: 1, H0672: 1, H0651: 1, H0539: 1, H0518: 1, H0522: 1, H0696: 1, S0118: 1, L0745: 1, L0756: 1, L0780: 1, L0757: 1, H0595: 1, S0434: 1, L0588: 1, L0592: 1, H0667: 1, H0542: 1 and S0462: 1. AR033: 17, AR055: 16, AR089: 13, AR061: 12, AR052: 9, AR096: 9, AR053: 8, AR060: 8, AR104: 8, AR039: 3	

Gln-170 to Pro-176, Ser-195 to Lys-211.	L0747: 8, L0779: 7, H0657: 6, L0766: 6, L0751: 6, L0731: 6, L0794: 5, L0740: 5, H0341: 4, H0484: 4, H0318: 4, H0617: 4, H0087: 4, L0769: 4, H0659: 4, L0742: 4, L0754: 4, L0752: 4, H0661: 3, S0360: 3, S0410: 3, L0776: 3, H0658: 3, H0685: 2, S0134: 2, S0116: 2, S0358: 2, S0408: 2, S0222: 2, H0392: 2, H0486: 2, H0013: 2, H0156: 2, H0530: 2, S0051: 2, H0169: 2, H0616: 2, H0059: 2, S0438: 2, L0772: 2, L0521: 2, L0775: 2, L0805: 2, L0659: 2, L0526: 2, L0518: 2, L0663: 2, H0144: 2, H0690: 2, S0378: 2, H0696: 2, L0743: 2, L0749: 2, L0750: 2, L0777: 2, L0596: 2, H0352: 2, H0170: 1, H0265: 1, H0295: 1, H0483: 1, H0255: 1, H0663: 1, H0306: 1, H0638: 1, S0418: 1, S0356: 1, S0354: 1, S0046: 1, H0370: 1, H0333: 1, L0623: 1, H0485: 1, T0109: 1, S0010:

1, S0049: 1, H0251: 1,
H0327: 1, H0546: 1, H0545:
1, H0150: 1, H0567: 1,
H0570: 1, H0123: 1, H0081:
1, H0012: 1, H0620: 1,
H0014: 1, H0373: 1, S0388:
1, T0010: 1, H0083: 1,
H0510: 1, H0594: 1, H0266:
1, H0292: 1, H0688: 1,
H0428: 1, H0604: 1, H0031:
1, H0644: 1, H0606: 1,
L0055: 1, H0674: 1, S0364:
1, H0708: 1, S0366: 1,
H0135: 1, H0268: 1, H0080:
1, H0100: 1, H0494: 1,
H0396: 1, H0561: 1, H0366:
1, S0294: 1, S0440: 1,
H0509: 1, H0641: 1, S0144:
1, S0422: 1, H0529: 1,
L0369: 1, L0371: 1, L0770:
1, L0372: 1, L0764: 1,
L0768: 1, L0386: 1, L0381:
1, L0774: 1, L0375: 1,
L0378: 1, L0806: 1, L0655:
1, L0657: 1, L0809: 1,
L0788: 1, H0520: 1, H0547:
1, H0519: 1, H0689: 1,
H0670: 1, H0672: 1, H0651:
1, H0539: 1, S0118: 1,
S3014: 1, S0206: 1, L0745:

653	HDTLL66	864279	581 - 898	2068	Met-1 to Lys-14, Lys-19 to Cys-25, Pro-27 to Tyr-36, Asn-70 to Lys-78, Leu-96 to Trp-106.	1, L0780: 1, L0758: 1, L0759: 1, H0595: 1, S0434: 1, L0588: 1, H0653: 1, S0276: 1, H0542: 1, H0543: 1 and S0462: 1. AR055: 22, AR033: 19, AR061: 16, AR060: 15, AR089: 14, AR052: 9, AR053: 8, AR039: 5, AR096: 5, AR104: 5	36-52, 79-95, 54-70
654	HWDAF64	864349	75 - 1061	2069	Pro-34 to Cys-39, Thr-155 to Thr-173, Gln-178 to Arg-183, His-209 to Ala-215, Ser-217 to Ser-223, Glu-244 to Pro-250.	AR039: 1, AR096: 1, AR033: 1, AR061: 1, AR089: 1, AR060: 1, AR053: 0, AR104: 0, AR052: 0, AR055: 0 L0769: 3, L0439: 3, L0415: 2, H0255: 2, L0770: 2, L0774: 2, L0663: 2, L0665: 2, L0438: 2, L0777: 2, L0731: 2, L0605: 2, H0580: 1, S0045: 1, S0222: 1, H0441: 1, H0370: 1, H0600: 1, H0333: 1, H0574: 1, H0618: 1, L0738: 1, H0135: 1, H0551: 1, H0413: 1, H0059: 1, H0646: 1, H0538: 1, L0763: 1, L0648: 1, L0766: 1, L0378: 1,	223-240, 277-293, 100-116, 185-201

655	HETJF10	864357	665	25 - 393	2070	Lys-116 to Thr-123.	L0809: 1, L4501: 1, H0593: 1, H0689: 1, H0658: 1, S0432: 1 and S0031: 1. AR089: 4, AR033: 3, AR061: 3, AR060: 2, AR055: 2, AR096: 1, AR052: 1, AR039: 0, AR053: 0, AR104: 0 S0342: 1, H0484: 1, S0358: 1, S6022: 1, H0046: 1, L0438: 1, H0593: 1, S0037: 1, L0439: 1 and L0759: 1.	94-114, 66-82, 15-31
656	HBAGJ74	864391	666	10 - 375	2071	Met-1 to Leu-6, Gly-15 to Gln-22.	AR096: 4, AR039: 4, AR089: 3, AR052: 3, AR053: 3, AR060: 2, AR055: 2, AR033: 2, AR104: 2, AR061: 2 H0411: 2	91-108, 25-41, 52-68
657	HT5EJ85	864392	667	45 - 551	2072	Pro-10 to Thr-18, Cys-22 to Gly-28, Arg-46 to Arg-51, Pro-53 to Tyr-58.	AR055: 8, AR033: 7, AR052: 7, AR104: 6, AR096: 6, AR060: 5, AR061: 5, AR053: 5, AR089: 5, AR039: 5 H0584: 4, L0783: 4, L0809: 4, L0758: 4, L0769: 3, L0439: 3, H0167: 2, H0295: 2, H0484: 2, H0411: 2, L0764: 2, L0662: 2,	61-80, 88-104

| 658 | HKAKL77 | 864545 | 668 | 25 – 519 | 2073 | Met-1 to Arg-12, Asp-25 to Thr-34, Ala-37 to Pro-46, Leu-72 to Ser-79. | L0768: 2, L0438: 2, L0755: 2, L0601: 2, L0603: 2, H0294: 1, S0218: 1, H0657: 1, H0656: 1, L0785: 1, H0341: 1, H0661: 1, S0354: 1, L0717: 1, H0052: 1, H0544: 1, H0545: 1, H0510: 1, H0615: 1, H0628: 1, H0181: 1, H0038: 1, H0059: 1, H0130: 1, L0763: 1, L0770: 1, L0761: 1, L0644: 1, L0773: 1, L0766: 1, L0774: 1, L0378: 1, L0807: 1, L0659: 1, L0666: 1, L0664: 1, S0374: 1, T0068: 1, H0520: 1, S0126: 1, H0435: 1, H0660: 1, H0539: 1, H0521: 1, H0696: 1, H0444: 1 and H0543: 1. | AR104: 46, AR033: 35, AR096: 29, AR052: 22, AR053: 15, AR089: 14, AR039: 13, AR060: 9, AR055: 4, AR061: 2 L0438: 2, L0748: 2, H0422: 2, H0664: 1, S0354: 1, H0619: 1, H0549: 1, H0431: 1, H0013: 1, H0156: 1, S0010: 1, H0123: 1, H0622: 1, T0023: 1, H0553: 1. | | | 78-104, 142-164, 116-135, 52-68 |

No.	Clone ID				SEQ ID NO	Amino acid positions	Mutation list	AR list	Range
659	HCFBY67	864566	669	38 - 403	2074	Ile-33 to Asp-46, Pro-51 to Cys-56, Gly-71 to Gly-81.	1, H0551: 1, H0494: 1, H0646: 1, H0529: 1, L0766: 1, H0520: 1, H0684: 1, H0672: 1, S0152: 1, H0521: 1, S0406: 1, L0439: 1, L0754: 1, L0756: 1 and S0194: 1.	AR033: 15, AR089: 13, AR053: 9, AR052: 9, AR060: 8, AR055: 7, AR061: 7, AR096: 2, AR039: 0	80-104
660	HUCNL85	864609	670	270 - 899	2075	Gln-11 to Lys-21, Arg-119 to Ser-124.	S0136: 7, S0356: 2, S0410: 2, H0486: 2, H0672: 2, H0422: 2, H0170: 1, H0657: 1, H0692: 1, H0254: 1, H0402: 1, H0305: 1, S0358: 1, H0619: 1, L0717: 1, H0406: 1, H0599: 1, S0010: 1, T0115: 1, H0545: 1, S0051: 1, H0617: 1, H0264: 1, H0100: 1, L0659: 1, L0789: 1, L0665: 1, H0519: 1, H0414: 1, S0406: 1 and H0352: 1.	AR039: 196, AR096: 179, AR052: 167, AR053: 140, AR089: 132, AR060: 86, AR104: 71, AR033: 59,	71-89, 38-54

661	HSDIW17	864772	671	357 - 884	2076	AR055: 35, AR061: 23 H0521: 5, H0370: 3, L0439: 3, H0341: 2, S0420: 2, H0592: 2, H0087: 2, L0792: 2, H0519: 2, S0418: 1, H0619: 1, H0393: 1, S0278: 1, H0392: 1, H0600: 1, H0586: 1, H0497: 1, S0049: 1, H0544: 1, L0471: 1, H0071: 1, H0083: 1, H0266: 1, H0288: 1, H0286: 1, S0036: 1, H0494: 1, S0150: 1, H0593: 1, H0539: 1 and L0759: 1.	AR053: 3, AR052: 3, AR096: 3, AR089: 2, AR055: 2, AR060: 1, AR104: 1, AR033: 1, AR061: 1, AR039: 0 S0050: 1, S0028: 1 and S0260: 1.	117-141, 3-30, 39-60, 96-114, 148-166, 73-89
662	IIHETS46	864808	672	233 - 574	2077	L0757: 6, L0775: 4, L0731: 4, H0421: 3, L0774: 3, L0758: 3, S0040: 2,	AR052: 3, AR053: 3, AR096: 2, AR033: 2, AR089: 2, AR039: 1, AR055: 1, AR061: 1, AR060: 1, AR104: 1	56-72

663	HAPSD53	864818	673	93 - 1106	2078			84-107
					Asn-9 to Thr-17, Ala-25 to Ser-36, Asn-66 to Tyr-75, Lys-123 to Tyr-145, Asn-154 to Phe-161, Ser-218 to Ala-228, Pro-240 to Ser-247, Thr-273 to Phe-278,	AR055: 8, AR033: 6, AR089: 5, AR052: 5, AR053: 5, AR061: 4, AR060: 4, AR096: 3, AR104: 3, AR039: 0 L0439: 5, L0794: 4, H0253: 3, L0766: 3, H0618: 2, L0769: 2, L0800: 2, S0376: 2, T0048: 2, L0764: 2, L0809: 2, H0682: 2, S0028: 2, L0748: 2, L0755: 2, L0597: 2, L0588: 2, L0590: 2, H0543: 2, H0170: 1, T0049: 1, S0348: 1, S0420: 1, S0045: 1, S0046: 1, H0411: 1, T0104: 1, L0623: 1, H0486: 1, S0280: 1, H0599: 1, H0575: 1, H0581: 1, S0049: 1, H0183: 1, H0545: 1, H0266: 1, H0288: 1, H0628: 1, H0617: 1, H0090: 1, H0268: 1, H0413: 1, S0210: 1, L0762: 1, L0763: 1, L0770: 1, L0768: 1, L0663: 1, H0690: 1, H0435: 1, H0658: 1, S0380: 1, S0152: 1, H0555: 1, H0436: 1, L0749: 1, L0777: 1, L0753: 1, L0362: 1 and H0423: 1.	

| 664 | HAMFW6 6 | 864987 | 67-4 | 158 - 469 | 2079 | Ala-301 to Pro-315, Arg-330 to Ala-338. | L0659: 2, L0789: 2, L0744: 2, L0749: 2, L0758: 2, H0265: 1, H0556: 1, S0360: 1, S0045: 1, S0222: 1, H0592: 1, H0069: 1, H0575: 1, H0318: 1, H0052: 1, H0083: 1, H0615: 1, H0038: 1, H0413: 1, H0494: 1, L0763: 1, L0770: 1, L0771: 1, L0662: 1, L0803: 1, L0378: 1, L0653: 1, L0629: 1, L0809: 1, L0666: 1, L0664: 1, L0438: 1, L0743: 1, L0754: 1, L0747: 1, L0750: 1, L0779: 1, L0777: 1, L0731: 1, L0596: 1, L0588: 1, L0605: 1 and H0352: 1. | AR053: 3, AR052: 3, AR033: 2, AR096: 2, AR089: 2, AR055: 2, AR104: 1, AR060: 1, AR061: 0, AR039: 0 L0754: 12, S0410: 10, L0766: 9, L0591: 7, L0748: 4, L0752: 4, H0423: 4, H0556: 3, S0360: 3, L0646: 3, L0527: 3, L0596: 3, H0170: 2, H0265: 2, S0114: 2, S0218: 2, H0266: 2, | 58-83 |

| 665 | HTJMU48 | 865019 | 675 | 20 - 1015 | 2080 | Gly-32 to Asn-51, Trp-72 to Ala-83, | (see list) | AR033: 5, AR096: 5, AR039: 5, AR053: 4, | 19q13.2-q13.3 | 107741, 113900, | 52-70 |

List cell:

H0615: 2, H0056: 2, H0560: 2, H0561: 2, L0803: 2, L0782: 2, H0547: 2, H0134: 2, H0436: 2, L0756: 2, H0445: 2, L0362: 2, H0543: 2, L0002: 1, H0650: 1, S0418: 1, H0208: 1, S0046: 1, S0476: 1, H0619: 1, H0437: 1, H0550: 1, T0114: 1, H0013: 1, T0048: 1, H0318: 1, L0109: 1, H0050: 1, L0471: 1, S0051: 1, H0083: 1, H0328: 1, H0622: 1, H0604: 1, H0031: 1, H0591: 1, H0551: 1, H0268: 1, H0623: 1, H0100: 1, H0132: 1, L0763: 1, L0667: 1, L0388: 1, L0804: 1, L0776: 1, L0606: 1, L0657: 1, L0659: 1, L0542: 1, L0518: 1, L0809: 1, L0791: 1, L0792: 1, L0793: 1, H0519: 1, H0682: 1, H0648: 1, S0330: 1, S0152: 1, S0406: 1, L0750: 1, L0779: 1, L0757: 1, L0759: 1, L0480: 1, H0542: 1 and H0506: 1.

| 666 | HAU/E93 | 865020 | 676 | 73 - 684 | 2081 | Thr-137 to Cys-145, Ser-157 to Gly-162, His-176 to Ala-183, Lys-199 to Asn-210, Arg-225 to Gly-230, Asp-248 to Val-254. | AR055: 4, AR089: 3, AR104: 2, AR052: 3, AR060: 3, AR061: 2 | | 122720, 122720, 126340, 126391, 130410, 134790, 138570, 160900, 164731, 173850, 207750, 248600, 258501, 600040, 602225, 602225 | |
| | | | | | | Gln-3 to Trp-9, Glu-15 to Asp-25, Asn-59 to Ser-69, Ser-138 to Tyr-145, Glu-147 to Tyr-153. | AR055: 11, AR104: 9, AR061: 6, AR039: 6, AR096: 4, AR033: 9, AR060: 7, AR052: 6, AR089: 5, AR053: 4 | 19q13.2-q13.3 | 107741, 113900, 122720, 122720, 126340, 126391, 130410, 134790, 138570, 160900, 164731, 173850, 207750, 248600, | 72-93, 34-57, 160-179, 96-116, 185-201 |

| 667 | HAICK45 | 865026 | 677 | 234 - 1376 | 2082 | Met-1 to Phe-9, Gln-16 to Gly-25, Val-42 to Thr-71, Asn-92 to Arg-100, Pro-107 to Lys-117, Leu-153 to Leu-163, Phe-176 to Trp-182, Arg-184 to Gln-192, Glu-250 to Gly-257, Phe-266 to Lys-272. | AR055: 7, AR052: 6, AR096: 5, AR060: 5, AR053: 5, AR033: 5, AR089: 4, AR061: 4, AR104: 3, AR039: 2 L0748: 9, L0794: 6, L0766: 6, L0439: 6, H0574: 3, H0046: 3, H0040: 3, L0662: 3, L0803: 3, L0740: 3, L0747: 3, H0423: 3, H0624: 2, S0358: 2, H0561: 2, L0598: 2, L0520: 2, L0665: 2, L0777: 2, L0758: 2, L0599: 2, S0106: 2, H0543: 2, H0171: 1, S0134: 1, S0218: 1, S0408: 1, S0132: 1, S0300: 1, H0411: 1, S0222: 1, L0623: 1, H0013: 1, L0021: 1, H0575: 1, H0581: 1, H0545: 1, L0163: 1, H0083: 1, H0032: 1, H0090: 1, H0551: 1, H0264: 1, H0647: 1, H0529: 1, L0770: 1, L0642: 1, L0768: 1, L0364: 1, L0649: 1, L0790: 1, L0666: 1, | | 258501, 600040, 602225, 602225 | 219-235, 318-334 |

| 668 | HBJIKI39 | 865163 | 678 | 234-536 | 2083 | Arg-5 to Lys-11, Thr-48 to Ile-53. | AR055: 13, AR033: 7, AR060: 7, AR061: 7, AR053: 6, AR052: 6, AR089: 5, AR096: 5, AR039: 3, AR104: 3 L0777: 9, L0758: 6, H0424: 4, L0770: 4, H0341: 3, H0617: 3, L0749: 3, L0757: 3, H0661: 2, S0358: 2, H0318: 2, S0049: 2, H0598: 2, H0413: 2, L0763: 2, L0766: 2, L0775: 2, L0789: 2, H0696: 2, L0744: 2, L0751: 2, L0747: 2, L0750: 2, L0752: 2, H0170: 1, H0484: 1, S0354: 1, S0046: 1, S0132: 1, H0587: 1, H0331: 1, H0632: 1, H0250: 1, L0021: 1, S0010: 1, H0581: 1, H0085: 1, H0597: 1, H0081: 1, H0012: 1, H0015: 1, H0615: 1, L0142: 1, H0169: 1, H0163: 1, H0616: 1, H0059: 1, | 58-80, 18-38 | L0663: 1, H0144: 1, H0547: 1, H0684: 1, H0648: 1, H0436: 1, H0478: 1, L0590: 1, L0608: 1, S0026: 1, S0276: 1, S0424: 1 and H0677: 1. |

669	HAGHY26	865168	679	257 - 646	2084	Gln-34 to Leu-40, Thr-70 to Gly-92.

AR096: 1, AR089: 1, AR039: 1, AR052: 0, AR104: 0, AR060: 1, AR053: 1, AR061: 0, AR033: 0, AR055: 0 H0052: 64, S0010: 22, L0438: 15, S0222: 13, S0346: 12, S6028: 12, L0366: 10, H0261: 9, T0010: 9, S0036: 9, S0049: 7, H0144: 7, L0439: 7, S0300: 6, L0592: 6, L0749: 5, H0438: 4, H0156: 4, S0051: 4, L0686: 4, S0007: 3, S6026: 3, H0194: 3, L0776: 3, S0028: 3, L0750: 3, L0753: 3, L0759: 3, L0589: 3, S6024: 2, H0441: 2, H0013: 2, H0390: 2,

H0561: 1, H0633: 1, S0144: 1, S0142: 1, S0210: 1, L0769: 1, L0521: 1, L0768: 1, L0794: 1, L0774: 1, L0375: 1, L0806: 1, L0629: 1, L0659: 1, L0666: 1, S0374: 1, H0689: 1, H0660: 1, H0672: 1, S3012: 1, L0748: 1, L0740: 1, L0755: 1, L0603: 1, H0665: 1, S0192: 1 and H0542: 1.

4-21, 110-126, 46-62

| 670 | HCLSJ87 | 865172 | 680 | 40 | 498 | 2085 | Pro-33 to Ser-41, Trp-65 to Ile-72. | H0051: 2, S0388: 2, L0768: 2, L0779: 2, L0684: 2, L0594: 2, L0411: 1, H0170: 1, S0400: 1, S0356: 1, S6016: 1, H0455: 1, N0009: 1, L2250: 1, N0006: 1, H0567: 1, L0471: 1, H0201: 1, L0455: 1, S0038: 1, S0386: 1, L0370: 1, L0638: 1, L0630: 1, L0363: 1, L0774: 1, L0657: 1, S0126: 1, H0696: 1, L0745: 1, L0755: 1, L0758: 1, L0688: 1, S0106: 1, H0667: 1, S0412: 1 and S0021: 1. AR039: 2, AR052: 1, AR104: 1, AR060: 1, AR089: 1, AR033: 0, AR053: 0, AR061: 0, AR096: 0, AR055: 0 | 109-130 |
| 671 | HJBAQ50 | 865176 | 681 | 39 - 404 | | 2086 | | AR096: 3, AR033: 1, AR060: 1, AR052: 1, AR089: 1, AR061: 1, AR039: 0, AR053: 0, AR104: 0, AR055: 0 L0439: 6, L0438: 3, S0222: 2, H0271: 2, L0758: 2, S0001: 1, H0441: 1, | 80-97 |

| 672 | IITEL31 | 865259 | 682 | 332-808 | 2087 | Trp-7 to Gln-15. | AR061: 6, AR055: 5, AR033: 4, AR060: 4, AR053: 3, AR096: 3, AR089: 3, AR052: 3, AR039: 0 L0769: 7, L0754: 7, L0748: 6, L0777: 6, L0759: 5, L0803: 4, L0747: 4, H0041: 3, L0775: 3, S0420: 2, S0358: 2, H0013: 2, H0427: 2, L0794: 2, L0804: 2, L0659: 2, L0789: 2, L0751: 2, L0749: 2, L0752: 2, L0587: 2, L0599: 2, L0603: 2, H0255: 1, S0356: 1, S0045: 1, H0411: 1, H0441: 1, H0009: 1, H0081: 1, H0024: 1, H0014: 1, T0006: 1, H0616: 1, L0536: 1, L0770: 1, L0638: 1, L0761: 1, L0771: 1, L0662: 1, L0767: 1, L0774: 1, L0375: 1, L0653: 1, L0633: 1, L0629: 1, L0636: 1, L0783: 1, L0666: 1, L0665: 1, S0052: 1, H0672: 1, H0436: 1, L0758: 1, S0260: | S0010: 1, H0052: 1, S0050: 1, S0366: 1, T0042: 1, S0428: 1 and H0547: 1. | 95-111, 38-54, 77-93 |

| 673 | IIPJBE61 | 865275 | 683 | 55 - 495 | 2088 | Asp-12 to Pro-17, Ser-59 to Glu-66, Leu-102 to Gly-119, Pro-130 to Trp-143. | AR055: 11, AR096: 7, AR061: 6, AR039: 6, AR052: 5, AR060: 5, AR033: 5, AR089: 4, AR053: 4, AR104: 3 L0751: 7, L0758: 5, L0766: 4, H0250: 3, H0556: 2, H0544: 2, L0769: 2, L0747: 2, H0422: 2, H0265: 1, S0114: 1, S0134: 1, S0116: 1, H0663: 1, S0132: 1, H0586: 1, H0069: 1, H0427: 1, H0309: 1, H0150: 1, H0041: 1, H0510: 1, H0594: 1, S0022: 1, H0606: 1, S0036: 1, H0087: 1, T0042: 1, H0494: 1, L0475: 1, S0438: 1, H0641: 1, S0422: 1, L0771: 1, L0662: 1, L0655: 1, L0783: 1, L0792: 1, L0663: 1, H0672: 1, H0539: 1, S0152: 1, I10187: 1, L0750: 1, H0445: 1, S0434: 1, H0542: 1 and S0424: 1. 1, L0581: 1, L0604: 1, L0595: 1, L0361: 1 and S0192: 1. | | | 15-47, 71-102 |
| 674 | HLTCU22 | 865293 | 684 | 47 - 730 | 2089 | Ser-83 to Gly-88, | AR052: 66, AR053: 56, | | | 178-196, |

89-105, 157-173
Pro-130 to Asn-137. AR089: 32, AR055: 26, AR096: 24, AR039: 24, AR061: 18, AR060: 17, AR033: 14, AR104: 13 H0031: 4, L0794: 4, L0805: 4, H0419: 3, L0369: 3, L0776: 3, H0556: 2, H0657: 2, H0662: 2, L0766: 2, L0774: 2, L0790: 2, L0438: 2, S0126: 2, H0521: 2, S0028: 2, L0439: 2, L0747: 2, S0011: 2, H0265: 1, H0294: 1, S0001: 1, S0418: 1, S0420: 1, S0376: 1, S0360: 1, S0045: 1, S0222: 1, H0486: 1, H0013: 1, H0427: 1, H0309: 1, H0024: 1, S0388: 1, T0023: 1, H0212: 1, H0124: 1, H0090: 1, H0334: 1, S0440: 1, H0633: 1, L0371: 1, L0769: 1, L0772: 1, L0764: 1, L0363: 1, L0768: 1, L0653: 1, L0655: 1, L0807: 1, L0783: 1, L0789: 1, H0144: 1, H0702: 1, H0519: 1, H0690: 1, H0658: 1, H0670: 1, H0660: 1, S0044: 1, H0215: 1, L0748: 1, L0740: 1, L0746: 1, L0750:

675	HE8DZ49	865322	685	300 - 1565	2090			366-396
						Lys-20 to Ser-27, Met-62 to Asp-75, Asp-85 to Gln-94, Glu-135 to Arg-160, Asn-195 to Glu-202, Ser-291 to Ser-298, Thr-314 to Leu-332, Pro-342 to Ser-351, Glu-357 to Arg-365.	AR096: 18, AR053: 15, AR033: 14, AR052: 14, AR060: 14, AR055: 13, AR089: 11, AR104: 10, AR061: 6, AR039: 5 L0731: 9, L0803: 8, L0749: 8, L0748: 5, L0439: 5, L0756: 4, L0759: 4, H0581: 3, L0766: 3, L0747: 3, H0013: 2, H0427: 2, H0052: 2, H0251: 2, H0050: 2, L0794: 2, L0789: 2, L0665: 2, L0777: 2, L0758: 2, L0599: 2, S0134: 1, S0442: 1, S0358: 1, H0411: 1, H0261: 1, H0431: 1, H0455: 1, H0574: 1, H0486: 1, S0010: 1, H0439: 1, H0569: 1, H0014: 1, H0375: 1, H0124: 1, S0036: 1, H0038: 1, S0210: 1, L0371: 1, L0521: 1, L0774: 1, L0809: 1, S0374: 1, L0438: 1, H0696: 1, S0044: 1, 1, L0756: 1, L0777: 1, L0759: 1, L0596: 1, L0589: 1, L0591: 1, L0599: 1, L0595: 1, L0601: 1, S0026: 1, H0542: 1, S0042: 1 and S0424: 1.	

| 676 | HEGAC86 | 865369 | 686 | 511 - 858 | 2091 | Met-1 to Ala-13, Gly-29 to Trp-34, Pro-36 to Ala-42, Ser-70 to Cys-75. | H0436: 1, S0390: 1, L0750: 1, L0752: 1, S0276: 1, H0543: 1 and H0423: 1.
AR055: 9, AR033: 7, AR060: 4, AR089: 4, AR052: 4, AR061: 4, AR096: 3, AR053: 3, AR039: 1, AR104: 0
L0776: 3, L0758: 3, L0764: 2, L0803: 2, L0805: 2, H0522: 2, L0748: 2, L0777: 2, H0550: 1, L0468: 1, S0280: 1, S0010: 1, L0471: 1, L0804: 1, L0657: 1, L0665: 1, S0126: 1, L0743: 1, L0750: 1, L0756: 1 and L0780: 1. | 16q22 | 103850, 114835, 121360, 217800, 218030 | 90-106 |
| 677 | HOUDS89 | 866090 | 687 | 20 - 559 | 2092 | Glu-2 to Arg-14, Tyr-134 to Asp-140, Gln-151 to Asn-158. | AR052: 9, AR096: 7, AR060: 5, AR089: 5, AR053: 5, AR039: 4, AR055: 4, AR033: 4, AR104: 3, AR061: 3
L0769: 6, L0809: 4, H0585: 3, H0617: 3, H0181: 2, L0763: 2, L0768: 2, L0803: 2, L0805: 2, L0789: 2, S0040: 1, H0282: 1, L0796: 1, L0800: 1, L0794: 1, L0653: 1, L0776: 1, | | | 46-72, 80-98, 111-127, 16-32 |

| 678 | HCEVF41 | 866297 | 688 | 172-1149 | 2093 | Gln-49 to Glu-54, Gln-67 to Ile-74. | AR039: 7, AR053: 5, AR096: 5, AR104: 3, AR089: 3, AR061: 3, AR060: 3, AR033: 2, AR052: 1, AR055: 1 H0618: 9, L0758: 9, H0253: 5, H0620: 3, L0439: 3, L0747: 3, H0255: 2, S0356: 2, H0617: 2, L0770: 2, S0028: 2, L0756: 2, L0361: 2, H0624: 1, S0040: 1, H0295: 1, H0656: 1, S0358: 1, S0444: 1, S0360: 1, S0045: 1, H0261: 1, S0222: 1, H0392: 1, H0085: 1, H0597: 1, H0545: 1, H0150: 1, H0009: 1, H0012: 1, H0606: 1, H0165: 1, H0598: 1, H0135: 1, H0272: 1, S0448: 1, L0644: 1, L0764: 1, L0767: 1, L0806: 1, L0809: 1, L0664: 1, S0374: 1, S0126: 1, H0670: 1, H0696: 1, S0037: 1, L0742: 1, L0740: 1, L0750: 1, L0777: 1, L0780: 1, L0731: 1, S0011: 1, H0667: 1, S0398: 1 and S0462: 1. L0792: 1, L0793: 1, H0576: 1 and L0759: 1. | 126-150, 274-300, 155-174, 18-39, 202-226, 1-17, 92-108, 243-259 |

679	HPWBO25	866302	689	62 - 694	2094	Pro-72 to Met-78.	AR089: 1, AR053: 1, AR033: 1, AR060: 1, AR039: 0, AR061: 0, AR096: 0, AR055: 0, AR052: 0, AR104: 0 L0604: 2, H0255: 1, H0018: 1, S0366: 1, S0044: 1, S0037: 1, S0028: 1 and S0031: 1.	150-183, 96-135, 76-95, 117-135, 54-70
680	HSKNJ56	866374	690	15 - 593	2095	Leu-37 to Lys-43, Pro-177 to Thr-184.	AR061: 3, AR096: 3, AR033: 2, AR060: 1, AR089: 1, AR052: 1, AR055: 1, AR104: 0, AR039: 0, AR053: 0 L0439: 5, L0435: 2, H0624: 1, S3012: 1, S3014: 1, L0747: 1 and L0749: 1.	103-123, 161-177
681	HSSKF43	866388	691	118 - 744	2096		AR089: 8, AR096: 7, AR104: 7, AR055: 6, AR060: 6, AR039: 6, AR052: 6, AR033: 5, AR053: 5, AR061: 3 L0665: 3, L0598: 2, L0519: 2, L0663: 2, L0754: 2, L0747: 2, H0265: 1, S0134: 1, H0640: 1, H0409: 1, H0581: 1, L0471: 1, I0135: 1, L0435: 1, H0509: 1, L0800: 1, L0803: 1,	84-109, 148-171, 6-24, 27-43, 174-190, 192-208

| 682 | HSKJK72 | 866398 | 13 - 429 | 2097 | Gln-35 to Gly-45, Cys-113 to Val-123. | S0374: 1, L0438: 1, H0520: 1 and L0592: 1.
AR055: 9, AR060: 6,
AR052: 6, AR089: 5,
AR061: 5, AR033: 5,
AR053: 4, AR096: 4,
AR039: 2, AR104: 2
H0545: 1 and S3014: 1. | 61-82 |
| 683 | HACBC20 | 866413 | 291 - 635 | 2098 | | AR052: 11, AR096: 6,
AR053: 5, AR089: 5,
AR060: 4, AR033: 4,
AR061: 4, AR055: 4,
AR039: 3, AR104: 3
L0805: 6, L0770: 5,
L0803: 5, L0777: 5, L0776:
3, L0740: 3, L0750: 3,
L0759: 3, H0599: 2, T0041:
2, H0670: 2, L0439: 2,
L0747: 2, H0341: 1, S0418:
1, S0280: 1, H0318: 1,
H0014: 1, S0250: 1, H0252:
1, H0328: 1, H0087: 1,
H0494: 1, H0633: 1, L0763:
1, L0796: 1, L0651: 1,
L0657: 1, L0558: 1, L0809:
1, L0789: 1, L0790: 1,
L0666: 1, L0663: 1, H0519:
1, H0689: 1, H0710: 1,
S0152: 1, S3014: 1, L0755: | 1-35, 31-60, 74-107 |

684	HSDIS65	866560	694	71 - 961	2099	1, H0445: 1, S0436: 1, L0599: 1, H0423: 1 and H0352: 1. AR104: 20, AR033: 16, AR055: 10, AR096: 10, AR053: 10, AR052: 10, AR089: 7, AR060: 7, AR039: 5, AR061: 5 L0756: 7, L0777: 4, H0051: 3, S0003: 3, S0036: 3, S0408: 2, L0770: 2, L0546: 2, L0779: 2, L0596: 2, S0282: 1, S0358: 1, S0278: 1, H0574: 1, H0427: 1, H0590: 1, H0327: 1, H0622: 1, H0130: 1, L0771: 1, L0659: 1, L0665: 1, H0670: 1, H0521: 1, S0037: 1, L0742: 1, L0758: 1 and S0260: 1.			268-297, 30-50, 219-236, 142-161, 242-259, 189-205, 1-17
685	HHFEL55	866610	695	1698 - 1216	2100	AR033: 96, AR052: 86, AR104: 71, AR053: 68, AR089: 60, AR055: 47, AR096: 45, AR060: 35, AR061: 20, AR039: 15 H0620: 2, H0486: 1, H0050: 1, H0012: 1 and H0083: 1.	Ser-4 to Pro-12,		135-154
686	HSIDL28	866611	696	43 - 546	2101	AR052: 29, AR053: 26,	3q21-q25	106165,	149-167,

40-58

117700,
117700,
150210,
169600,
180380,
180380,
180380,
190000,
203500,
222900,
232050,
276902,
600882,
601199,
601199,
601199,
601471,
601682

Pro-20 to Lys-30,
Ser-59 to Phe-64,
Pro-85 to Pro-91,
Pro-118 to Gly-126,
Thr-128 to Asp-143.

AR089: 21, AR033: 21, AR096: 20, AR060: 15, AR055: 15, AR104: 12, AR039: 8, AR061: 7 L0769: 10, L0766: 10, L0764: 7, L0751: 7, L0794: 6, L0743: 6, L0747: 6, L0757: 6, L0809: 5, L0748: 5, L0779: 5, H0052: 4, L0768: 4, L0803: 4, L0666: 4, H0170: 3, S0114: 3, L0774: 3, H0543: 3, H0254: 2, H0662: 2, H0370: 2, S0280: 2, H0318: 2, L0109: 2, H0123: 2, H0188: 2, H0687: 2, H0424: 2, H0031: 2, H0038: 2, H0494: 2, L0761: 2, L0772: 2, L0800: 2, L0662: 2, L0775: 2, L0805: 2, L0776: 2, L0664: 2, H0670: 2, L0750: 2, L0605: 2, L0592: 2, H0542: 2, H0624: 1, H0265: 1, H0650: 1, H0255: 1, H0661: 1, H0306: 1, H0305: 1, S0442: 1, S0376: 1, S0360: 1, H0580: 1, H0722: 1, H0351: 1, S0222: 1, H0592: 1, H0331: 1, H0486: 1, H0013: 1, H0036: 1, S0474: